

NOTES ON THE GENUS CLERODENDRUM (VERBENACEAE). XXXIV

Harold N. Moldenke

CLERODENDRUM Burm.

Additional synonymy: *Volkamaria* Burm. ex Nemnich, Allgem. Polyglott. Lex. 1: 1066 sphalm. 1791.

Additional & emended bibliography: L., Mant. Pl., imp. 1, 2: 423 & 515. 1771; W. Hook., Bot. Misc. 1: 283--284. 1829; Géel, Sert. Bot. Cl. 2: 13 & 14. 1832; Jack in Griff., Calcut. Journ. Nat. Hist. 4: [Descrip. Malay. Pl., imp. 5] 16--17, 38--40, & 48--49. 1843; Dura, Gard. Chron., ser. 1, 5: 433. 1845; Lindl., Gard. Chron., ser. 1, 5: 154 & 435. 1845; Jack, Malay. Misc., imp. 2 [Descrip. Malay. Pl., imp. 6], 1: 16--17. 1877; Skeat, Malay. Magic 79 & 236. 1900; S. Moore in Baker, Moore, & Rendle, Journ. Linn. Soc. Lond. Bot. 37: 197--198 (1905) and 37: 562. 1906; Gibbs, Journ. Linn. Soc. Lond. Bot. 37: 464. 1906; Maxwell, Journ. Roy. Asiat. Soc. Straits 45: 32, 37, & 51. 1906; C. B. Robinson, Philip. Journ. Sci. Bot. 3: 305. 1908; E. D. Merr., Philip. Journ. Sci. Bot. 3: 431--432. 1909; Fiori, Agric. Colon. Ital. 5: Suppl. 100--101. 1911; Fiori, Buschi Piante Legn. Eritrea [Bibl. Agr. Colon. 7:] 323--324. 1912; E. D. Merr., Philip. Journ. Sci. 21: 533. 1922; Wangerin, Justs Bot. Jahressber. 56 (1): 668--669. 1936; Hutchinson & Bruce in Gillett, Kew Bull. 1941: 177. 1941; Glover, Prov. Check List Brit. Ital. Somal. 20, 23, 50, 57, 260, 266--267, 342, 355, 407, & 413. 1947; W. Robyns, Fl. Sperm. Parc Nat. Albert 2: 140--148, pl. 14. 1947; Alain, Rev. Soc. Cub. Bot. 13: 33. 1956; Conde, Hist. Bot. Cuba 218. 1958; Langsdale-Br., Osmiston, & Wils., Veg. Uganda 25 & 112. 1964; W. C. Burger, Haile Sellas. Univ. Exp. Sta. Bull. 45: 198, fig. 60 (2 & 3). 1965; Bosler, Journ. Ecol. Bot. 54: 473. 1966; W. C. Burger, Fam. Flow. Pl. Ethiop. 198, fig. 60 (2 & 3). 1967; Seaforth, W. Afr. Journ. Biol. Appl. Chem. 7: 29 & 30. 1967; Astle, Kirkia 7: 89 & 95. 1968; Glover, Stewart, Fumerton, Marindany, & Anderson, Gloss. Bot. Kipsig Names, ed. 2, 223, 232, 233, 259, & 264. 1969; Lind & Tallantire, Some Comm. Flow. Pl. Uganda, ed. 2, 145--147, [151], 238, 243, 253--255, & 259, fig. 90. 1971; Innamorati, Webbia 28: 107. 1973; Ament, Journ. E. Afr. Nat. Hist. Soc. Nat. Mus. 154: 25. 1975; B. C. Stone, Henderson's Malay. Wild Fls. Append. 16. 1977; Buck, Bull. Torrey Bot. Club 113: 464. 1986; Mold., Phytologia 62: 184--206. 1987.

Sydow (1922) records the fungus, *Meliola sarawakensis* P. Henn., as infesting the leaves of an unidentified species of *Clerodendrum* on the island of Celebes, based on C. B. Robinson 2466.

An additional excluded species is: *Clerodendron odoratum* Roxb. apud Wall., Numer. List [49], no. 1812. 1829 = *Caryopteris odorata* (Hamilt.) B. L. Robinson.

CLERODENDRUM MELANOCRATER Gürke

Additional & emended synonymy: *Premna melanophylla* S. Moore in 308

Baker, Moore, & Rendle, Journ. Linn. Soc. Lond. Bot. 37: 196--197. 1905. *Clerodendron melanophyllum* (S. Moore) S. Moore, Journ. Bot. Brit. 45: 93. 1907.

Additional bibliography: S. Moore in Baker, Moore, & Rendle, Journ. Linn. Soc. Lond. Bot. 37: 196--197 (1905) and 37: 567. 1906; S. Moore, Journ. Bot. Brit. 44: 89 (1906) and 45: 93. 1907; Mold., Phytologia 62: 189--191. 1987.

Moore's *Premna melanophylla* is based on Bagshawe 141a from a swamp at the mouth of the Bakore River, Uganda; in his 1906 work Moore cites also Bagshawe 685, which he states is a "finer" specimen than the one on which he based his description and on the basis of which he modified his original description. In his 1907 work he says: "This plant, with its relatively long and slender [corolla] tube and exserted stamens, is certainly not a *Premna*, although it agrees with that genus in habit rather than with *Clerodendron*". He suggests that it is "no doubt allied" to *Premna macrosiphon* Baker [now known as *Clerodendrum thomasi* Mold.]. Bagshawe notes that his no. 685 collection was "a climber in forest".

CLERODENDRUM MINAHASSAE Teijsm. & Binn.

Additional bibliography: Sydow, Philip. Journ. Sci. 21: 146 & 601. 1922; Mold., Phytologia 62: 200--206. 1987.

Sydow (1922) records the fungus, *Meliola sarawakensis* P. Henn., as infesting the leaves of "*Clerodendron (minahassae?)*" on the basis of C. B. Robinson 2509.

The following collections, originally identified and distributed as typical *C. minahassae*, are regarded by me as representing, instead, its var. *brevitubulosum* H. J. Lam: Bartlett 15292 & 15299, Elmer 18078, Loher 12607, McGregor, Herb. Philip. Bur. Sci. 43554 & 44527, Merrill 332, Ramos & Edaño, Herb. Philip. Bur. Sci. 43962 & 49222, Read 1255, Renner s.n. [29.11.1930j, Rogerson 1085, Sulit, Philip. Nat. Herb. 6262, Sullivan 1115, Wenzel 2839 & 3400, and Zwicky 198. However, Wenzel 83 & 261 are regarded by me as var. *grandicalyx* Mold., while C. B. King s.n. [July 1969] is *C. trichotomum* var. *ferrugineum* Nakai.

The Philippine collections cited below are placed here tentatively -- it is possible that further study may show that they may, in part, at least, be better regarded as representing var. *brevitubulosum* H. J. Lam.

Citations: MALAYA: Singapore: Furtado s.n. [March 31, 1928] (Ca-360672). PHILIPPINE ISLANDS: Basilan: Reillo, Herb. Philip. Bur. Sci. 16086 (Cm). Busuanga: Félix, Herb. Philip. Bur. Sci. 15639 (Cm). Jolo: Kienholz, Herb. Philip. Bur. Sci. 15521 (Ca--262880); Ramos & Edaño, Herb. Philip. Bur. Sci. 44434 (Ca--257647). Luzon: Cuming 1573 (X), 1644 (L, X), 1688 (L, X). GREATER SUNDA ISLANDS: Celebes: Blinnemeijer 10776 (Bz--20062, Bz--20063, Ca--235846), 10892 (Bz--20041); Curran 3459 [photo B & W 94, Col. 46 (4.5)] (A); Kaudern 499 (Ac, N), Kjellberg 59 (Bz--20081, S), 1797 (Bz--20048, S); Koorders 18611b [3365] (Bz--20073), 19513b (Bz--20079), 19514b [2045] (Bz--20080), 19515b (Bz--20069, Bz--20070, Bz--25534, N), 19516b [87] (Bz--20075), 19517b [3365] (Bz--20071), 19518b [2242]

(Bz--20072), 19519b (Bz--20077), 19521b [71] (Bz--20074, Bz--20076), 19522b (Bz--20063), 19523b [1670] (Bz--20073); Noerkas 194 (Bz--20060), 299 (Bz--20061), 455 (Bz--20058, Bz--20059); Rachmat 25 (Bz--20052, Bz--20053); Riedel s.n. [Gorontalo] (Bz--20067), s.n. [1874] (Mu, Mu); Teijsmann 5298 H.B. (Bz--20054--cotype), 5774 (Bz--20066--cotype, Ld--photo of cotype, N--photo of cotype), 5868 (Bz--20055--cotype, Ut--43903--cotype), 12146 (Bz--20064, Bz--20065). Saleaboe: Lam 3047 (Bz--20082, Bz--20083, Bz--25533, N). LESSER SUNDA ISLANDS: Soemba: Grevenstuk 180 (Bz--20955). MOLUCCA ISLANDS: Taliaboe: Hulstijn 179 [Atje 179] (Bz--20030, Bz--20031, Bz--20032), 417 [Atje 417] (Bz--20023, Bz--20024). CULTIVATED: Cuba: Salvoza 614 (A). Florida: Buswell s.n. [June 5, 1943] (Bu, Ws); Dress 1767 (Ba); C. Ferris s.n. [August 17, 1970] (E--2052941, E--2052942, E--2052943); Gillis 7985 (Ba), 9965 (Ld); Loomis s.n. [Plant Introd. 137954] (N); R. E. Matthews s.n. [D. Fairchild 3459] (N); Pancho 1606 (Ba). Java: Herb. Hort. Bogor. XI.5.22 (Bz--26538), XI.G.107 (Bz--25806, Bz--25807, N), XI.I.22 (Bz--25823, Bz--25824, Bz, Bz, Bz, Bz, N), XI.I.22a (Bz--20056), XI.I.22a (Bz, N), XV.J.A.XXXIII.3 (Bz--26389, Bz--26390, Bz--26539, Bz, Bz, N), XV.L.1 (Bz--26474, Bz--26475, Bz, Bz, N), XV.L.1a (Bz--26476, Bz--26477, N); Koorders 21919b (Bz--20028, Bz--20029, Bz--25535, Ca--265984); Teijsmann s.n. [Hort. Bogor. 1868] (K); Van Steenis 4043 (Bz--20025); Vorderman s.n. (Bz--20027); Wisse 967 (Bz--20026). Netherlands: Herb. Hort. Bot. Ultr. s.n. [Dec. 1903] (Ut). Penang: Mahmud BOS.6366 (K1--6748). Pennsylvania: J. W. Peterson J.585 [Longw. Gard. Acc. 583] (Ba). Sri Lanka: Collector undetermined s.n. [Roy. Bot. Gard. Perad. February 1888] (Pd); Moldenke, Moldenke, & Jayasuriya 28168 (W); Sumithraarachchi & Sumithraarachchi DBS.78 (W--2803409). LOCALITY OF COLLECTION UNDETERMINED: Marconcz s.n. [10.VIII.26] (L), s.n. (L). MOUNTED ILLUSTRATIONS: Corner & Watanabe, Illust. Guide Trop. Pl. 755. 1969 (Ld, Z); Koord., Ann. Jard. Bot. Buitenz. 14: pl. [21] (Ld) & 22 [anat.]. 1896 (Z); H. N. Moldenke color slide 100 (Ld).

CLERODENDRUM MINAHASSAE var. BREVITUBULOSUM H. J. Lam, Verbenac. Malay. Arch. 315 [as "Clerodendron" J. 1919; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62 & 90. 1942.

Synonymy: *Clerodendron fortunatum* Blanco, Fl. Filip., ed. 1, 508--509. 1837 [not *Clerodendrum fortunata* L., 1756, nor *Clerodendrum fortunatum* Retz, 1772, nor Vent., 1819, nor *Clerodendron fortunatum* Buch.-Ham., 1831, nor Blume, 1844, nor Burm., 1962, nor Sesé & Moc., 1894, nor Wall., 1885]. *Clerodendron blancoi* Naves in Blanco, Fl. Filip., ed. 3, pl. 223. 1878. *Clerodendron minahassae* Merr., Bull. Govt. Lab. Philip. 35: 62 in syn. 1906 [not *Clerodendron minahassae* Teijsm. & Binn., 1863]. *Clerodendron minahassae* H. J. Lam, Verbenac. Malay. Arch. 363. 1919. *Clerodendrum plancoi* Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 20 sphalm. 1936. *Clerodendron blancoi* "Naves ex Villar" apud Fedde & Schust., Justs Bot. Jahresber. 60 (2): 572 in syn. 1941. *Clerodendron blancoi* Merr. ex Mold., Phytol. Mem. 2: 384 in syn. 1980.

Bibliography: Blanco, Fl. Filip., ed. 1, 508--509 (1837) and ed. 2, 355. 1845: Fern.-Villar & Naves in Blanco, Fl. Filip., ed. 3, 4:

Nov. App. 161 (1878) and ed. 3, 6: pl. 223. 1878; Pardo de Tavera, Pl. Med. Filip. 241-242, 329, 332, & 337. 1892; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 560. 1893; E. D. Merr., Philip. Journ. Sci. 1: 173 (1906) and Suppl. 1: 122. 1906; E. D. Merr., Philip. Govt. Lab. Publ. 35: 62--63. 1906; Backer, Tropische Natuur 5: 88. 1916; E. D. Merr., Sp. Blanc. 334. 1918; H. J. Lam, Verbenac. Malay. Arch. 248, 315, & 363. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 85, 86, 108, & viii. 1921; Stapf, Ind. Lond. 2: 238 (1930) and 6: 544. 1931; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.]. 20. 1936; Fedde & Schust., Justs Bot. Jahresber. 60 (2): 572. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62 & 90. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 560. 1946; H. N. & A. L. Mold., Pl. Life 2: 50. 1948; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 141 & 182. 1949; Mold., Résumé 183, 195, 260, 263, & 451. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 560. 1960; Mold., Fifth Summ. 1: 316, 322, 359, 440, & 445 (1971) and 2: 869. 1971; Mold., Phytologia 34: 269. 1976; Mold., Phytol. Mem. 2: 306, 313, 350, 384, & 540. 1980; H. N. & A. L. Mold. in Dassan. & Fosb., Rev. Handb. Fl. Ceyl. 4: 443. 1983; Mold., Phytologia 59: 469 (1986), 60: 282 & 495 (1986), 61: 178 (1986), and 62: 204 & 205. 1987.

Illustrations: Fern.-Villar & Naves in Blanco, Fl. Filip., ed. 3, 6: pl. 223 (in color). 1878.

This variety differs from the typical form of the species in having its calyx during anthesis 2.5--3.5 cm. long and the corolla-tube 5--8.5 cm. long.

The variety is based on the *Clerodendron fortunatum* of Blanco (1837) which he describes as follows: "*Clerodendron Fortunatum*. *Clerodendro* dichoso. Tronco casi redondo. Hojas opuestas, aovadas oblongas aguzadas, enteras y aperas pelosas. Flores terminales en panojas umbeladas, con las ramas opuestas, y en cada umbela tres florecitas. Involucro de la umbelita, una hojuela en la base del pedunculo, y dos en el extremo. Propio de la florecita, dos hojuelas alesnadas. Cal. de color garzo, largo, tubulado, algo hincha-do en el medio, y en cinco partes. Cor. dos veces mas larga que el caliz, con el tubo filiforme, y el limbo con cinco lacinias casi iguales. Estam. didinamos, fijos acia las divisiones mas profundas de la corola, y siguen acia abajo pegados al tubo. Filam. mas largos que la corola. Ant. hechadas. Germen conico. Estilo del lar-go de los estambres. Estigma bifido. Baya seca, cuadrada, deprim-ida, con la corteza dura, cuatro canales, otros tantos aposentos, y en cada uno una semilla. = Arbusto que se eleva á la altura de dos brazas á lo mas. Algunos indios le conocen, y es frecuente en los bosques. Sus flores que son un poco amarillas, cuando estan secas, tienen el olor mas bien grato, que fastidioso. El nombre dichoso de la especie, esta tomado de una vana creencia de los naturales de la india. Asi como llamen á otre especies desventurada, porque piesen que cortando alguna flor, han de quebrar algua utensilio en su casa. * T, Casopañgil gubat."

Merrill (1906) describes the Philippine plant as follows: "A shrub or small tree 2 to 7 m. high, glabrous or nearly so, with ob-

long ovate, acuminate leaves, terminal, few-flowered panicles, the calyces inflated, tubular, 2 to 2.5 cm. long, the corolla tube slender, 5 cm. long, slightly puberulent. Branches gray or brown, lenticellate, glabrous or nearly so. Leaves opposite, 9 to 20 cm. long, 5 to 11 cm. wide, the base rounded or obtuse, the apex short acuminate, the margins entire, glabrous or nearly so; nerves about 12 on each side of the midrib; petioles glabrous, 3 to 7 cm. long. Panicles few flowered, simple, glabrous or slightly pubescent, the branches few, 2 to 2.5 cm. long, each bearing three flowers. Flowers fragrant, white or cream colored. Calyx slightly pubescent, green, often tinged with purple, about 6 mm. in diameter, somewhat dilated in the middle, 5 cleft, the teeth oblong ovate, about 8 mm. long. Corolla tube slender, exserted, the limb spreading, 5-cleft, the lobes oblong 1.5 to 2 cm. long. Stamens equaling the lobes. Calyx in fruit cleft half way to the base, enlarged, green outside, red within, the fruit globose, about 1 cm. in diameter, deep blue." He cites Ahern 586, Ahern's Collector 1153, Borden 1609 & 1915, Guer-
rero 13, Leiberg 6012 & 6115, Merrill 2707, 2838, 2938, 3089, & 3866, and Whitford 418 from Luzon in the philippine Islands.

He comments that "Although the name *Clerodendron blancoi* Naves, is published in the places cited above, without a description and without reference to other species as synonyms, yet the plate so named by Naves, enables us at once to identify the species, and the reference by F.-Villar, of this plate, with *Clerodendron fortunatum* Blanco, to *Clerodendron infortunatum*, shows the species of Blanco, which Naves intended his plate to represent. This name was published before *Clerodendron blancoanum* F.-Villar., and although without a description, we are of the opinion that the citation of the name as a synonym, by F.-Villar, should be considered a valid publication, and the name retained rather than to adopt a new name for this common species. *Clerodendron blancoanum* F.-Villar., although well described by that author, is a synonym of *Clerodendron quadriloculare* Merrill (*C. navesianum* Vidal.)."

The pounded leaves of *C. minahassae* var. *brevitubulosum* are used in native medicine in the Philippines to relieve bone-ache from fatigue.

It may be worth noting here that the *Clerodendron fortunatum* accredited to Buchanan-Hamilton and to Wallich in the synonymy (above) belong in the synonymy of *Clerodendrum fortunatum* L., the homonym credited to Blume is *C. indicum* (L.) Kuntze, that credited to Sessé & Mociño is *C. ligustrinum* (Jacq.) R. Br., and that accredited to Burman is *C. serratum* (L.) Moon; the *Clerodendrum fortunatum* credited to Retz and to Ventenat are *C. fortunatum* L.

Lam (1919) cites for *C. minahassae* var. *brevitubulosum* only Forsten 9, Weber, Herb. Lugd.-Bat. 908.266-115, and Zippel, Herb. Lugd.-Bat. 908.266-69 from Celebes and three Teijsmann & DeVries collections which he admits may be typical *C. minahassae* rather than this variety. He cites, also from the Philippines, apparently without any doubts: Curran 17443, McGregor 10267, Merrill 332 & 491, Ramos 14729, Robinson 11778, and Tomacio 20042.

Loher 4407 is said to be a perfect match for Cuming 1644.

Material of *Clerodendrum minahassae* var. *brevitubulosum* has most often been distributed in herbaria as typical *C. minahassae* Teijsm. & Binn. or even as *C. simile* Merr.

Citations: PHILIPPINE ISLANDS: Basilan: Ebalo 866 (Mi). Biliran: R. C. McGregor, Herb. Philip. Bur. Sci. 18632 (W--1010581), 18717 (W--898122). Leyte: Glassman 606 (Ur), 709 (Ur). Luzon: Adduru 52 (W--1091724); Ahern's Collector, Merr. Dec. Philip. For. Fl. 162 (It, Mi, Os, W--1584132), Herb. Philip. For. Bur. 1915 (Bz--20045), 3135 (N, W--627095); Bartlett 14544 (Mi), 14726 (Mi, Ws), 15292 (Ca--164147, Mi, N), 15299 (Bi, Ca--164250, Mi, N), 15345 (Mi); Borden, Herb. Philip. For. Bur. 1609 (N, W--625487), 1915 (Bz--20044, N, W--850771); Dres, Herb. Philip. For. Bur. 31931 (N); Elmer 18078 (Bi, Bz--20037, Ca--271407, N, S, Um--155, Ut--71528, W--1237547); Fenix 13 (Bz--20046, L); Fox 248 [Philip. Nat. Herb. 4693] (Mi); Loher 4406 (Mu), 4407 (W--446864), 4410 (W--446865), 12607 (Ca--240069, Mu--4342); Mangubat, Herb. Philip. Bur. Sci. 1360 (N); R. C. McGregor, Herb. Philip. Bur. Sci. 43554 (Ca--237690), 44537 (Ca--256657); E. D. Merrill 332 (Mu--4185, Ut--22259, W--1178290), 2707 (N), 2838 (N, W--437808), 2938 (W--437910), 3089 (N, W--438060), 3866 (N, W--438934); Otanes, Herb. Philip. Bur. Sci. 17981 (W--1238453); M. Ramos, Merr. Sp. Blanc. 80 (Bz--20043, N, W--903747), 432 (Bz--20042, N, W--904109); Ramos & Edaño, Herb. Philip. Bur. Sci. 29472 (Bz--20036); Rogerson 1085 (It, W--1940728, W--1940729); Whitford 418 (N, W--851598); R. S. Williams 358 (N). Malamaui: Miranda, Almagro, & Benito, Herb. Philip. For. Bur. 18878 (Bz--20040). Mindanao: Ahern 568 [field no. 397] (W--445827); Quadras 397 (W--1584674); M. Ramos, Herb. Philip. Bur. Sci. 14729 (Cm, N): Ramos & Edaño, Herb. Philip. Bur. Sci. 36727 (Bz--20035), 37003 (Bz--20041), 49222 (Ca--324187); C. B. Robinson, Herb. Philip. Bur. Sci. 11778 (Bz--20038); Wenzel 2839 (B, Ca--317005), 3400 (Ca--354918); R. S. Williams 2135 (N, N, N, W--707839), 2923 (N, N); Zwickey 193 (Mi, N), 201 (Mi). Mindoro: Conklin 267 [Philip. Nat. Herb. 18681] (W--2214831). Palawan: Bermejos, Herb. Philip. Bur. Sci. 318 (Bz--20039, W--439420). Samar: Sulit, Philip. Nat. Herb. 6262 (Mi, W--2125703). Tawitawi: Ramos & Edaño, Herb. Philip. Bur. Sci. 43962 (B, Ca--257646, S). GREATER SUNDA ISLANDS: Celebes: Rachmat 821 (Bz--20050, Bz--20051); Veearts Donggala 27 (Bz--20057); Waturandang Cel./V. 295 (Bz--20047, Bz--25532). CULTIVATED: Florida: R. W. Read 1255 (Ft--2193); V. I. Sullivan 1115 (Ft--2192, Ft). Java: Renner s.n. [29.11.1930] (Mu).

CLERODENDRUM MINAHASSAE var. *GRANDICALYX* Mold., *Phytologia* 23: 315. 1972.

Bibliography: Anon., Biol. Abstr. 54 (7): B.A.S.I.C. S.53. 1972; Mold., *Phytologia* 23: 315. 1972; Hocking, Excerpt. Bot. A.23: 291. 1974; Mold., *Phytol. Mem.* 2: 307 & 540. 1980; Brenan, Ind. Kew. Suppl. 16: 71. 1981; H. N. & A. L. Mold. in Dassan. & Fosb., Rev. Handb. Fl. Ceyl. 4: 443. 1983; Mold., *Phytologia* 62: 205. 1987.

This variety differs from the typical form of the species in having its calyx during anthesis to 4 cm. long and the corolla-tube to 11 cm. long.

The variety is based on Chester A. Wenzel 261, collected sometime in 1913 on the island of Leyte, Philippine Islands, and deposited in the United States National Herbarium in Washington.

The variety has been collected in anthesis in March. Material has been distributed to some herbaria as typical *C. minahassae* Teijsm. & Binn.

Citations: PHILIPPINE ISLANDS: Leyte: Wenzel 83 (W--1171887), 261 (W--713908--type).

CLERODENDRUM MINDORENSE Merr., Philip. Journ. Sci. Bot. 7: 342 [as "Clerodendron"]. 1912; Mold., Alph. List Comm. Vern. Names 4. 1939.

Synonymy: *Clerodendron simile* Merr., Govt. Lab. Publ. Philip. 35: 64. 1906 [not *Clerodendron simile* H. H. W. Pearson, 1901]. *Clerodendron mindorense* Merr., Philip. Journ. Sci. Bot. 7: 342. 1912. *Clerodendron mindoroense* Merr. ex Bakh. in Lam. & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 73 & 78. 1921. *Clerodendron mindoraense* Merr. ex Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: ix sphalm. 1921. *Clerodendron mindorensis* Merr. ex Mold., Alph. List Inv. Names Suppl. 1: 6 in syn. 1947. *Clerodendron similis* Merr. ex Mold., Phytol. Mem. 2: 389 in syn. 1980.

Bibliography: E. D. Merr., Govt. Lab. Publ. Philip. 35: 64. 1906; Prain, Ind. Kew. Suppl. 3, imp. 1, 45. 1908; E. D. Merr., Philip. Journ. Sci. Bot. 7: 342. 1912; Fedde & Schust., Justs Bot. Jahressber. 40 (2): 335. 1915; H. Hallier, Meded. Rijks Herb. Leid. 37: 75. 1918; H. J. Lam, Verbenac. Malay. Arch. 309 & 364. 1919; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 73, 78. 110, & ix. 1921; Prain, Ind. Kew. Suppl. 5, imp. 1, 61. 1921; E. D. Merr., Enum. Philip. Flow. Pl. 3: 404. 1923; Mold., Alph. List Comm. Vern. Names 4. 1939; Mold., Prelim. Alph. List Inv. Names 21. 1940; Mold., Alph. List Inv. Names 19 & 20. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62 & 90. 1942; Mold., Phytologia 2: 100. 1945; Mold., Alph. List Cit. 1: 225 & 249. 1946; Mold., Alph. List Inv. Names Suppl. 1: 6. 1947; Mold., Alph. List Cit. 2: 403 & 462 (1948) and 3: 659, 721, 747, & 969. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 141 & 182. 1949; Prain, Ind. Kew. Suppl. 3, imp. 2, 45. 1958; Mold., Résumé 183, 267, 269, & 451. 1959; Prain, Ind. Kew. Suppl. 5, imp. 2, 61. 1960; Mold., Fifth Summ. 1: 316, 451. & 455 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 307. 389, & 540. 1980; Mold., Phytologia 58: 404 (1985), 59: 343 & 409 (1986), 61: 410, 415, & 416 (1986), and 62: 130. 1987.

A shrub, 0.5--1.5 m. tall; stems to 2 cm. in diameter; branches light-gray, glabrous; leaves decussate-opposite; petioles 2--8 cm. long, glabrous; leafblades membranous, lanceolate to ovate-lanceolate, 13--20 cm. long, 3--8 cm. wide, apically short-acuminate, marginally entire, basally acute and 3-veined; secondaries about 7 per side, rather prominent beneath; flowers in dense terminal clusters or masses, the inflorescence paniculate, minutely puberulous, its ramifications 3-flowered; bracts and bractlets subulate, 1--3 mm. long; calyx infundibular, 5 mm. long, externally minutely and sparingly puberulent, apically 5-toothed, the teeth 1.5 mm. long,

apically acute; corolla hypocrateriform, white or pink, 3 cm. long, the tube very slender, basally puberulent, the lobes spreading, oblong, 6 mm. long, 2 mm. wide, apically acute to obtuse; stamens about equaling the corolla-lobes; anthers 2 mm. wide; ovary globose, externally glabrous.

This species is based on E. D. Merrill 1192 from Baco, Mindoro, Philippine Islands, collected in January of 1903. Merrill (1903) comments that this is "A species with the general appearance of *Clerodendron quadriloculare*, differing from the latter in its much shorter flowers".

Collectors have found this plant growing in wooded *parang*, at the edges of cultivated areas, on hills, and in forests by streams, at altitudes of 50--600 m., in flower in January, April, and September, and in fruit in February, April, May, and December. Kienholz found it "in cleared land which has grown back to weeds" on Mindoro.

The corollas are described as having been "white" on Ramos, Herb. Philip. Bur. Sci. 46418 and as "pink" on Bartlett 13642 and Kienholz 59 & 172. Vernacular names reported for the species are "bagab" and "bagáuak".

A key to help distinguish this species from Indonesian taxa will be found under *C. klemmei* Elm. in the present series of notes [61: 410--415].

The *C. simile* of Pearson, referred to in the synonymy (above) is a synonym of what is now known as *C. ternatum* Schinz, which see.

Merrill (1906) cites for *C. mindorense*, besides the type collection, also Merrill 1234 from Mindoro and McGregor s.n. from Semirara. In his 1921 work he refers to the species as "Endemic...In primary and secondary forests at low altitudes: and cites Curran, Herb. Philip. For. Bur. 17421, Elmer 15494, McGregor 210 & 273, Merrill 1192 & 1234, and Merritt, Herb. Philip. For. Bur. 4043, 6142, 6186, & 6897 from Luzon, Mindanao, Mindoro, Negros, and Semirara.

Material of *C. mindorense* has been misidentified and distributed in some herbaria as *C. quadriloculare* (Blanco) Merr. On the other hand, the Baker 941, Klemme, Herb. Philip. For. Bur. 5684, and Ramos 1336, Ramos & Edaño, Herb. Philip. Bur. Sci. 48506 & 48612, distributed as *C. mindorense*, actually are *C. klemmei* Elm., while Ramos & Edaño, Herb. Philip. Bur. Sci. 3384 is the type collection of *C. luzoniense* Merr. and Bermejos, Herb. Philip. Bur. Sci. 318 is *C. minahassae* var. *brevitubulosum* H. J. Lam.

Citations: PHILIPPINE ISLANDS: Jolo: Bartlett 16082 (Mi). Luzon: Elmer 5964 (N), 15494 (Bz--20086, Ca--272336, N, Ut--67342, W--894528); Group V & Gates s.n. [Feb. 21, 1914] (Ka--60444); Kienholz 59 [Herb. Philip. Bur. Sci. 15209] (Ca--263066); Lichanco s.n. [F. C. Gates 8477] (Mi); Loher 6569 (Mu--4188); R. C. McGregor, Herb Philip. Bur. Sci. 12378 (Cm); Moo s.n. [Laguna, Jan. 12, 1914] (Mi); Ramos & Edaño, Herb. Philip. Bur. Sci. 33627 (Bz--19738), 33784 (Bz--20089), 37579 (Bz--20085, W--1260319); F. L. Stevens 1902 (Ur). Mindoro: Bartlett 14642 (Mi), 13888 (Mi); Kienholz 172 [Herb. Philip. Bur. Sci. 15247] (Ca--263034, N); R. C. McGregor 210 (N, W--854978); E. D. Merrill 1192 (Ld--photo of isotype, N--isotype, W--436165--isotype), 1234 (W--436204); M. Ramos, Herb. Philip. Bur.

Sci. 46418 (B, Bz--20084, Ca--308852, N). Negros: H. M. Curran, Herb. Philip. For. Bur. 17421 (W--709982). Palawan: Bermejos, Herb. Philip. Bur. Sci. 318 (N).

CLERODENDRUM MIRABILE J. G. Baker. Journ. Linn. Soc. Lond. 22: 513 [as "Clerodendron"]. 1887; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 53 & 90. 1942.

Synonymy: *Clerodendron mirabile* J. G. Baker, Journ. Linn. Soc. Lond. 22: 513. 1887.

Bibliography: J. G. Baker, Journ. Linn. Soc. Lond. Bot. 22: 513. 1887; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 101 (1901) and imp. 2, 101. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 53 & 90 (1942) and ed. 2, 123 & 182. 1949; Mold. in Humbert, Fl. Madag. 174: 148, 165--167, 266, & 268, fig. 35 (3). 1956; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 3, 101. 1959; Mold., Résumé 155 & 451. 1959; Mold., Fifth Summ. 1: 260 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 249 & 540. 1980; P. Holmgren & al., Ind. Vasc. Pl. Type Microf. 441. 1985; Mold., Phytologia 58: 185 (1985) and 60: 275. 1986.

Illustrations: Mold. in Humbert, Fl. Madag. 174: 165, fig. 35 (3). 1956.

An erect shrub; stems slender, terete; branchlets slender, brownish and somewhat ridged in drying, more or less compressed at the nodes, glabrous; nodes annulate; principal internodes 1.5--5 cm. long; leaves mostly ternate, often appearing as though fasciculate, numerous; petioles very slender, 2--9 mm. long or mostly obsolete, canaliculate above, margined, glabrous; leafblades membranous or moderately firm-textured, green on both surfaces when fresh, brunescent in drying, lighter beneath, elliptic or oblanceolate, 5--12 cm. long, 1--4.5 cm. wide, apically long-acuminate, marginally subentire or the larger ones usually rather irregularly serrate or sharply incised at or above the middle with acute or artrorsely apiculate rather distant teeth, basally long-attenuate into the petiole, glabrous or subglabrous on both surfaces, punctate beneath; midrib slender, flat above, prominulous beneath; secondaries very slender, very numerous, often rather indistinct, 10--20 per side, arcuate-ascending, flat above, very slightly sub prominulous beneath, not plainly joined at the margins; veinlet reticulation rather abundant but usually rather obscure; inflorescence axillary and terminal, the axillary cymes mostly 1- or 2-flowered, the terminal panicle sparse, erect, composed of about 3 whorls of cymes, glabrous and brunescent or nigrescent throughout; peduncles 2--3 cm. long; foliaceous bracts absent; bractlets lanceolate, about 1 cm. long, basally 1--1.5 cm. wide, apically long-attenuate to filiform, glabrous, a pair subtending each cyme-branch and one subtending each calyx, nigrescent; pedicels very short; calyx obconic, membranous, 2--2.5 cm. long, glabrous, nigrescent, the rim deeply 5-lobed, the lobes ovate-lanceolate, about half as long as the tube, 5--8 mm. long, apically long-attenuate; corolla hypocrateriform, the tube very slender throughout, to 17 cm. long and 3 mm. wide, glabrous, globosely inrolled before anthesis, the limb about 2 cm. wide, the

lobes broad, rounded; stamens curled up in bud so as to form a circle and a half; anthers oblong.

This endemic species is based on Baron 4755 from central Madagascar, collected in or before 1855 and deposited in the Kew herbarium. Baker (1887) places it in the Subgenus *Cyclonema*, yet says that it is "Near *C. macrosiphon*, Hook. f." which is in Section *Siphonanthus* of typical *Clerodendrum*.

A key to help distinguish *C. mirabile* from other Madagascar taxa in this genus will be found under *C. baronianum* Oliv. in the present series of notes [58: 184--190].

Citations: MADAGASCAR: Baron 4755 (E--photo of type, F--photo of type, K--type, Ld--photo of type, N--isotype, N--photo of type), 6889 (K).

CLERODENDRUM MOLLE H.B.K., Nov. Gen. Sp. Pl., ed. *tolio*, 2: [198].
1817 [not *Clerodendrum molle* Jack, 1820].

Synonymy: *Clerodendrum molle* H. & B. apud Steud., Nom. Bot. Phan., ed. 1, 207. 1821. *Clerodendron molle* Bonpl. apud Spreng. in L., Syst. Veg., ed. 16, 2: 759. 1825. *Clerodendrum molle* W. J. apud W. Hook., Bot. Misc. 1: 283. 1829. *Clerodendron* sp. J. D. Hook., Trans. Linn. Soc. Lond. 20: 261. 1847. *Clerodendron molle* H.B.K. apud Schau. in A. DC., Prodr. 11: 659. 1847. *Volkameria mollis* Beurling ex Mold., Prelim. Alph. List Inv. Names 53 in syn. 1940. *Clerodendrum mollis* H.B.K. ex Mold., Alph. List Inv. Names 56 sphalm. 1942. *Clerodendrum molle* var. *molle* Mold. in Wiggins & Porter, Fl. Galáp. Isls. 484. 1971.

Bibliography: H.B.K., Nov. Gen. Sp. Pl., ed. *folio*, 2: [198] (1817) and ed. *quarto*, 2: [244]--245. 1818; Steud., Nom. Bot. Phan., ed. 1, 207. 1821; Kunth, Sp. Pl. 2: 39. 1823; Spreng. in L., Syst. Veg., ed. 16, 2: 759. 1825; W. Hook., Bot. Misc. 1: 283--284. 1829; Steud., Nom. Bot. Phan., ed. 2, 1: 383. 1840; D. Dietr., Syn. Pl. 3: 616. 1842; Walp., Repert. Bot. Syst. 4: 105. 1845; J. D. Hook., Trans. Linn. Soc. Lond. 20: 195 & 261. 1847; Schau. in A. DC., Prodr. 11: 659. 1847; N. J. Anderss., Vet. Akad. Handl. Stockh. 1853: 201. 1854; Buek, Gen. Spec. Syn. Candol. 3: 106. 1858; N. J. Anderss., Galap. Veg. 82 & 201. 1859; Bocq., Adansonia, ser. 1 [Baill., Rec. Observ. Bot. J., 3: 214. 1863; Rose, Contrib. U. S. Nat. Herb. 1: 136. 1892; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561. 1893; Robinson & Greenm., Amer. Journ. Sci. 150 [ser. 3, 50]: 147. 1895; Barnhart, Bull. Torrey Bot. Club 29: 590. 1902; B. L. Robinson, Proc. Amer. Acad. 38: 194--195. 1902; A. Stewart, Proc. Calif. Acad. Sci., ser. 4, 1: 132. 1911; Knuth, Feddes Repert. Spec. Nov. Beih. 43: [Init. Fl. Venez.] 607. 1927; Mold., Geogr. Distrib. Avicenn. 22 & 23. 1939; Mold., Prelim. Alph. List Inv. Names 21 & 53. 1940; Mold., Alph. List Inv. Names 19 & 56. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 33, 34, & 90. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 561. 1946; Svenson, Amer. Journ. Bot. 33: 413 & 422. 1946; Mold., Alph. List Cit. 1: 4. 9, 30, 34, 50, 135, & 177 (1946), 2: 350, 351, 418, 428, 502, 544, 573, 580, & 640 (1948), 3: 696, 707, 765, 808, 849, 857, 870, 901, 917, 950, 968, 971, & 972 (1949), and 4: 982, 983, 1019, 1021, 1030, 1040,

1050, & 1223. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 40, 69, 70, 72, & 182. 1949; Mold., Phytologia 4: 45. 1952; Mold., Résumé 48, 79, 81, 82, 267, 392, & 451. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 561. 1960; Macbride, Field Mus. Publ. Bot. 13 (5): [Fl. Peruv.] 698 & 699. 1960; Bowman, Galap. 229 & 303. 1966; Schofield, Field Guide Galap. [5], pl. 1 & 14. 1970; Mold., Fifth Summ. 1: 90, 115, 135, 137, 138, 140, 451, & 464 (1971) and 2: 733 & 869. 1971; Mold. in Wiggins & Porter, Fl. Galap. Isls. 484--486, fig. 127 & pl. 84. 1971; Thornton, Darwin's Isl. 77 & 271. 1971; Wiggins & Porter, Fl. Galap. Isls. xx, 19, 21, & 982. 1971; Usinger, Mem. Pacif. Coast Entomol. Soc. 4: 276--277. 1972; López-Palacios, Revist. Fac. Farm. Univ. Andes 9 (13): 65--66. 1973; Mold. in Woodson, Schery, & al., Ann. Mo. Bot. Gard. 60: 139, 144, & 145. 1973; Balgooy, Pacif. Pl. Areas 3: 244. 1975; López-Palacios, Revist. Fac. Farm. Univ. Andes 17: 43. 1976; Soukup, Biota 11: 10. 1976; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 20. 1979; Mold., Phytol. Mem. 2: 83, 107, 127, 130, 132, 387, & 540. 1980; Raj, Rev. Palaeobot. Palyn. 39: 358 & 374. 1983; Schofield, Pl. Galap. Isls. 70. 1984; Mold., Phytologia 57: 404 & 458 (1985), 58: 181 (1985), and 62: 188. 1987.

Illustrations: Schofield, Field Guide Galap. pl. 14. 1970; Mold. in Wiggins & Porter, Fl. Galap. Isls. 285, fig. 127, & pl. 84 (in color). 1971; Schofield, Pl. Galap. Isls. 70. 1984.

A bush or shrub, 1--5 m. tall, or liana to 10 m. long; branches and branchlets slender, woody, gray or grayish to buff, conspicuously lenticellate, subterete, densely short-pubescent; nodes not annulate, prominently marked with the persistent petiole-bases; principal internodes 0.5--6 cm. long; leaves decussate-opposite or ternate; petioles slender, 3--8 mm. long, rather densely pubescent, the lowest 1--2 mm. persisting as a corky protuberance after the blade has fallen, not spine-tipped; leafblades thin-membranous or chartaceous, dark-green above when fresh but nigrescent in drying, lighter beneath, elliptic or ovate-elliptic, 1--6 cm. long, 0.5--3.4 cm. wide, apically acute or very short-acuminate to subobtuse, marginally entire, basally acute or subobtuse, finely and more or less sparsely pubescent above, densely short-tomentose beneath; midrib very slender, flat or subimpressed and usually more densely puberulent than the lamina above, very slightly prominulent beneath; secondaries very slender, 3--6 per side, short, arcuately ascending, not at all or but slightly prominulent beneath; vein and veinlet reticulation very delicate, obscure or indiscernible above, not at all prominulent beneath; inflorescence axillary and terminal, the cymes ternate, solitary in each axil, divaricate, 3--7 cm. long, 1--4 cm. wide, loosely 7--9-flowered or sub-many-flowered, dichotomously brachiate, pubescent throughout; peduncles very slender, 1--3.7 cm. long, pubescent; bracts none; bractlets and prophylla linear or setaceous, about 1 mm. long, densely pubescent; pedicels very slender, 1--5 mm. long, densely pubescent; flowers delicately fragrant; calyx campanulate or cupuliform, green, not showy, pubescent, 5-lobed, the lobes ovate, apically acute, spreading; corolla hypocrateriform, white or pinkish, pubescent, the tube cylindric, slender, less than

2.5 cm. long, the limb 5-lobed, the lobes oblong; stamens 4, much exserted; filaments red-purple; fruiting-calyx cupuliform, little accrescent; fruit drupaceous, globose, fleshy, sulcate, separating into 4 corky pyrenes.

This species is based on Bonpland 3837 from Guayaquil, Ecuador, deposited in the Paris herbarium, photographed there by Macbride as his type photograph no. 39497.

The original Humboldt, Bonpland, and Kunth description of this species is variously cited as "1817" or "1818". The dates here used are those verified by the late Dr. John H. Barnhart (1902). The species obviously belongs in the *C. ligustrinum* - *C. margaritense* - *C. rusbyi* - *C. aculeatum* - *C. inerme* group. The *C. molle* of Jack, referred to in the synonymy (above), is a synonym of *C. villosum* Blume, which see.

Clerodendrum molle has been found growing by collectors in wet places, at the edges of marshes, on beaches, in forests, along roadsides, on rocky precipices along the seashore, in thickets in moist low ground, in open woodlands on hillsides, on coastal lava rocks, in rolling scrubland, at the borders of swamps, intermingled with *Macraea* shrubs, and in the partial shade of the transition zone between lowland and forest, as well as in the *Bursera graveolens* zone, from about sealevel to 330 m. altitude, in flower from October to April, as well as in June and July, and in fruit from January to April, as well as in October and November.

In the Galápagos Islands Svenson speaks of the species as "not uncommon" on Charles Island; Snodgrass & Heller call it "tolerably common" on Albemarle and "common on lava coast" on James; Eriksson found it "common in the forest areas" of James, while Wiggins & Porter describe it as "shrubs to lianas, common at 60 m. altitude and up to at least 1500 ft." on James; Itow calls it a "common shrub"; Taylor found it "in soil among lava blocks with dense undergrowth in the coastal belt", while Stewart avers that it is "occasional as bushes on lava beds near sea level and to 500 ft. altitude" -- on Charles Island he says it occurs commonly as bushes "near the shores, forming thickets".

Svenson describes the plant as growing in "gravelly soil, not uncommon. Shrub 5--15 ft. high. Flowers white, roseate in throat in places. At times somewhat climbing."

The corollas are described as having been "white" on Asplund 5877, Dugand 4833, Wiggins 18674, and Wiggins & Porter 269, "pink and white" on Bowman 45, "white with a deep-pink tube" on Taylor G.1, "limb white, tube light-purple" on Howell 8972, and "tube light-lilac, lobes white" on Asplund 15332.

Macbride (1960) describes the fruits as "baccate", but they are actually drupaceous.

Bowman (1966) reports that the moth, *Protoparce rustica galapagensis*, visits the flowers of *Clerodendrum molle* at dusk on Albemarle Island. Thornton (1971) and Usinger (1972) report that a carpenter bee, *Xylocopa darwini*, cuts open the side of the corolla-tube and extracts the nectar, the tongue being too short to reach down the tube from its apex.

Hooker (1847) records this species from Charles Island on the basis of an unnumbered Darwin collection and from James Island on the basis of a Scouler collection. He comments that it is "Found also on the opposite coast of Columbia" [sic]. Andersson (1859) cites an unnumbered collection made by himself on Chatham, one by Darwin on Charles, and one by himself and one by Scouler on James Island. Robinson (1902) cites from Albemarle: Baur 168 and Snodgrass & Heller 59, 116, & 855; from Charles: Agassiz s.n., Andersson s.n., Darwin s.n., Lee s.n. and Snodgrass & Heller 443; from Chatham: Agassiz s.n., Andersson s.n., Baur 170, and Chierchia s.n.; from James: Andersson s.n., Scouler s.n., and Snodgrass & Heller 369; and from an undesignated island: Habel s.n. -- mostly deposited in the Gray Herbarium of Harvard University. He further asserts that the "Clerodendron sp." cited by Hooker (1847), Andersson (1854 & 1859), and Robinson (1902), based on Edmonston collections from Charles Island, is probably *C. molle*, and this has been verified by my examination of the Edmonston s.n. at Kew. It may be noted here that Andersson's Galap. Veg. is often cited as published in "1855" or "1857", but a paper published in 1859 is cited on page 80, so it could hardly have been published before that date!

Stewart (1911) cites his nos. 3275 & 3276 from Charles, 3277 & 3278 from Chatham, 3279 from Indefatigable, and unnumbered Andersson, Scouler, and Snodgrass & Heller collections from James Island and two unnumbered Edmonston collections from Charles Island, giving the species' "further distribution" as only Ecuador.

Knuth (1927) cites Miller & Johnston 8 and Johnston 82 from Margarita Island, but these collections actually represent *C. marginata* Mold.

Svenson (1946) cites only his nos. 156 & 11173 and comments that "The pinkish flowers in terminal cymes are followed by corky capsules which are well adapted for floating. The material agrees with the original description of specimens coming from Guayaquil except that the upper leaf surface is a little pubescent. It has a densely pubescent under-surface of the leaf and is the same as plants which I collected on Charles Island in the Galapagos."

Schofield (1984) says of this species in the Galapagos Islands: "Often in forests at middle elevations on the major islands, usually seen on trail to Salt lake on Santiago, near Academy Bay and Tortoise Reserve (Santa Cruz), and at Tagus Cove (Isabela); also distributed from Central to South America."

Material of *Clerodendrum molle* has been misidentified and distributed in some herbaria as *C. ternifolium* H.B.K., *Volkameria inermis* L., and even *Aegiphila* sp. On the other hand, the Fosberg 44880, Howell 9090, and Wiggins 18329, distributed as *C. molle*, actually represent its var. *glabrescens* Svenson, which see.

Citations: PANAMA: Née 3 (Q). COLOMBIA: Antioquia: Dugand 4833 (W--2174952). ECUADOR: Guayas: Asplund 5048 (S, W--1930373), 5877 (Gg--354940, N, S, W--1930638), 15332 (N, S); Bonpland 3837 [prope Guayaquil; Macbride photos 39497] (B--isotype, F--1038376--photo of type, Kr--photo of type, Ld--photo of type, N--photo of type, P--type, P--isotype, S--photo of type, W--photo of type); Cu-

ming 32 (K); Fagerling & Wibom 366a (S), 366b (S), 448 (S); A. S. Hitchcock 20014 (G, N, W-1195080), 20081 (G, N, W-1195134); Jameson s.n. [Guayaquil] (K, Pd); Remy s.n. [Bords de la rivier de Guayaquil, Nov. 1856] (P); Svenson 11173 (Ca-771410, N, W-1832524, W-1832580); Tafalla s.n. [Guayaquil] (B). Manabi: Barclay 695 (Bm). ECUADORIAN OFFSHORE ISLANDS: Puna: Barclay 441 (Bm, N), 2433 (Bm). GALAPAGOS ISLANDS: Floreana: Rorud 208 (01). Isabela: Bauer 168 (G); Howell 8972 (Gg-462970, W-2814451); Snodgrass & Heller 59 (G), 116 (Du-9527, G), 855 (G); A. Stewart 3275 (Gg-32027), (Bi, G, Gg-32026, W-921582). Marchena: Steindachner 47 (V). San Cristóbal: N. J. Andersson 119 (B, Cp, K, Lu, P, Us, V), s.n. [Chat-ham] (Cb, G, Le, X); Bauer 170 (G); Howell 8603 (Gg-463074); A. Stewart 3277 (G), 3278 (G, Gg-32029, W-921583); Wiggins & Porter 392 (Ac). Santa Cruz: N. J. Andersson s.n. [Indefatigable] (S); s.n. [1852] (E-118869); Bowman 45 (Ca-13533, Gg-451123); Fournier 77 (Ld); Hendrickson H-39 (Ld); Itow 51 (Du-564527), 54 (Du-564526); G. A. Smith s.n. [Feb. 1964] (Gg-454734--photo); R. G. Taylor G.1 (Gg-461220); Wiggins 18674 (Ld, W-2818214). Santa Maria: Agassiz s.n. [Charles, Mar. 30, 1891] (G, W-57694), s.n. [Charles, April 1, 1891] (W-57695); N. J. Andersson s.n. [Charles] (B, Br, N, S, V), s.n. [Chatham & Charles] (S); Edmonston s.n. [Charles Isl.] (K); Howell 8862 (Gg-462968); Itow 175 (Du-564534), 193 (Du-564529); Lee s.n. [Charles Island, April 8, 1888] (W-25583, W-25606); Markham s.n. [Charles Isl.] (K); Penny s.n. [Riley 429] (Bm, K); Snodgrass & Heller 443 (G, W-543119); A. Stewart 3277 (Gg-32030), 3278 (Bi); Svenson 156 (F-670330, G, J). Santiago: Erickson s.n. [8/9/1947] (Go); Howell 9703 (Gg-463075, N); Reeder s.n. [Sept. 10, 13, 1975] (Ws); Scouler s.n. [James Isl.] (K); Snodgrass & Heller 369 (Du-9528, G); D. Snow 124 (Du-564538); Wiggins & Porter 269 (Ld). PERU: Department undetermined: Née 15 (Q). MOUNTED ILLUSTRATIONS: Schofield, Pl. Galap. Isls. 70. 1984 (Ld).

CLERODENDRUM MOLLE var. *GLABRESCENS* Svenson, Amer. Journ. Bot. 22: 251 [as "Clerodendron"]. 1935; Mold., Geogr. Distrib. Avicenn. 23. 1939.

Synonymy: *Clerodendron molle* var. *glabrescens* Svenson, Amer. Journ. Bot. 22: 251. 1935. *Clerodendron molle* var. *glabra* Svenson ex Mold., Prelim. Alph. List Inv. Names 21 in syn. 1940.

Bibliography: Svenson, Amer. Journ. Bot. 22: 251. 1935; Mold., Geogr. Distrib. Avicenn. 23. 1939; Mold., Prelim. Alph. List Inv. Names 21. 1940; Mold., Alph. List Inv. Names 19. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 34 & 90. 1942; Svenson, Amer. Journ. Bot. 33: 480. 1946; Mold., Alph. List Cit. 2: 350, 428, & 502 (1948), 3: 901 & 972 (1949), and 4: 982. 1949; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 70 & 182. 1949; Mold., Résumé 81, 267, & 451. 1959; Mold., Fifth Summ. 1: 138 & 451 (1971) and 2: 869. 1971; Mold. in Wiggins & Porter, Fl. Galap. Isls. 484 & 486. 1971; Wiggins & Porter, Fl. Galap. Isls. 982. 1971; Balgooy, Pacif. Pl. Areas 3: 244. 1975; López-Palacios, Revist. Fac. Farm. Univ. Andes 20: 20. 1979; Mold., Phytol. Mem. 2: 130 & 540. 1980.

This variety differs from the typical form of the species in its

leafblades being merely puberulent or glabrate above and merely very lightly and obscurely pulverulent-puberulent and punctate or even subglabrous beneath.

The variety is based on H. K. Svenson 11 from along a trail at Academy Bay, on what used to be called Indefatigable Island, in the Galapagos Islands, collected on April 3, 1930, and deposited in the Brooklyn Botanic Garden herbarium. The collector describes the plant as a shrub, 3-6 feet tall, with white corollas whose tubes are roseate and chocolate-brown anthers. He describes the leaves and sepals as glabrous. In his 1946 work he states: "Specimens identical with var. *glabrescens* Svenson....were collected on Indefatigable Island by Schimpff (no. 70) and named *C. ternifolium* HBK at Berlin. These glabrous and pubescent plants are evidently trivial forms of the same species. They have aculeate petiole bases and are not far removed from the West Indian *C. aculeata*." He speaks of the fruits as "capsules", but, of course, they are drupes.

Collectors have encountered this plant at altitudes of 100--200 m., in flower in January, April, and May, and in fruit in July. Fosberg refers to it as "occasional in roadside thickets" or "local in open scrub forest and basaltic lava rock"; Stewart describes it as "occasional bushes in woodland on the lower portions of the island".

Collectors describe the plant as a very floriferous, intricately branched, straggly bush or shrub, 0.5--2 m. tall, with a "slightly skunk odor when broken", the leafblades punctate beneath, and the corollas as salverform. The corollas are said to have been "white" on Fosberg 44880, "the tube rose-purple, limb white" on López-Palacios 4291, "tube lavender, lobes white" on Howell 9090 and Wiggins 18329, and "tube pinkish, limb white" on Fosberg 44870.

A vernacular name reported for the plant is said to be "rodilla de pollo".

Material has been misidentified and distributed in some herbaria as *C. ternifolium* H.B.K. and as *Malpighia* sp.

Citations: GALAPAGOS ISLANDS: Santa Cruz: Fosberg 44689 (W--2879604), 44870 (Ld), 44880 (Ac, W--2814900); Howell 9090 (Gg--462971); López-Palacios 4291 (Ld); Reeder s.n. [March 22, 1975] (Ws); Schimpff 70 (B, Bm, Cb, E--1072289, Gg--212506, Mu, N, P, S, Ut); A. Stewart 3279 (Gg--32028); Svenson 11 (Bi--isotype, Ca--474429--isotype, F--670331--isotype, G--isotype, J--type, Ld--photo of type, N--photo of type), 136 (B, Bi, Ca--474428, F--670324, J, K, N, S); Wiggins 18329 (Ld, W--2818267).

CLERODENDRUM MONTANUM Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 100--101. 1936.

Bibliography: B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 38, 67, 94, & 100--101. 1936; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 49 & 90. 1942; Hill & Salisb., Ind. Kew. Suppl. 10: 55. 1947; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 116 & 182. 1949; Mold., Résumé 144 & 451, 1959; Mold., Fifth Summ. 1: 236 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 225 & 540. 1980; P. Holmgren & al., Ind. Vasc. Pl. Type Microf. 441. 1985.

A low shrub, to 2 m. tall, conspicuously branched; branchlets

squarrose, sometimes tetragonal, often striate, dark-flavescent hirtous or almost glabrous; leaves decussate-opposite; petioles 5--15 mm. long, hispidulous; leafblades coriaceous, obovate-rotund, 4--8 cm. long, 2--5 cm. wide, apically short-acuminate, marginally entire, basally rounded, hirtous above, pubescent beneath or only on the venation beneath; flowers aggregate in small foliose heads; peduncles and pedicels 1--4 mm. long, hispidulous; bracts foliose, ovate-oblong or lanceolate, 0.5--2 cm. long, 2--6 mm. wide, apically acute, hispidulous; calyx violet, basally cupular-campanulate and about 3 mm. long and 2 mm. wide, apically expanded into a widely spreading limb about 1 cm. long and divided to beyond the middle into 5 triangular or subovate-triangular teeth, hispidulous, ciliate, basally 4 mm. wide, not prominently venose; corolla white, fragrant, the tube violaceous, curvate, about 3.2 cm. long, glandular-pilose, basally and apically ampliate, the limb 5-lobed, the lobes subequal, about 7 mm. long, ovate-oblong, reclinate; stamens long-exserted, didynamous, inserted near the apex of the corolla-tube; filaments about 5 cm. long; anthers 2 mm. long; style 5.5 cm. long, surpassing the stamens; stigma shortly bifid; ovary about 2 mm. long, dark, glabrous; mature fruit unknown.

This species is based on Goetze 770 from 1750 m. altitude at Makatan, Ubena, Tanganyika (Tanzania), collected on March 21, 1899, and deposited in the Berlin herbarium, now destroyed. Collectors have encountered the plant at 1600--2000 m. altitudes. Thomas (1936) cites also Stolz 2713 and Troll 5514 from Tanganyika. The species is a member of Subsection *Capitata*, of Section *Macrocalyx*, Subgenus *Euclerodendrum*, and appears to be endemic to Tanganyika.

Citations: TANZANIA: Tanganyika: Goetze 770 (Br--isotype, Ld--photo of isotype, N--isotype, N--photo of isotype).

CLERODENDRUM MORAMANGENSE Mold., *Lloydia* 13: 210--211. 1950.

Bibliography: Mold., *Lloydia* 13: 210--211. 1950; E. J. Salisb., Ind. Kew. Suppl. 11: 56. 1953; Mold. in Humbert, *Fl. Madag.* 174: 153, 217, 219--220, & 268, fig. 35 (3). 1956; Mold., Résumé 155 & 451. 1959; Mold., Fifth Summ. 1: 260 (1971) and 2: 869. 1971; Mold., *Phytol. Mem.* 2: 249 & 540. 1980; P. Holmgren & al., Ind. Vasc. Pl. Microf. 441. 1985; Mold., *Phytologia* 58: 188. 1985.

Illustrations: Mold. in Humbert, *Fl. Madag.* 174: 217, fig. 35 (3). 1956.

A shrub; branches medium-slender, very light-gray, subterete, lenticellate, glabrate; branchlets slender, almost white, obtusely tetragonal, often sulcate, prominently lenticellate, glabrous throughout; nodes not annulate; principal internodes 1.5--5.3 cm. long; leaf-scars large, divergently prominent, corky; leaves decussate-opposite; petioles stoutish, 2--8 mm. long, subglabrous; leafblades coriaceous, elliptic-ob lanceolate, 2.8--9 cm. long, 1.4--1.9 cm. wide, often slightly falcate, apically mostly short-acuminate or rarely emarginate, marginally entire, basally acute, glabrous and shiny on both surfaces, rather inconspicuously impressed-punctate beneath; midrib slender, impressed above, sharply prominent beneath; secondaries slender, 5--7 per side, often more or less impressed a-

bove, sharply prominent beneath, ascending but often arcuate only toward the margins, anastomosing in loops near the margins beneath; veinlet reticulation indiscernible above, the larger parts prominent beneath; inflorescence terminal, cymose, 1-7-flowered; peduncles extremely abbreviated or obsolete; pedicels rather stout, 5-8 mm. long, glabrous; calyx herbaceous, 2.3-2.7 cm. long, 9-12 mm. wide, not nigrescent nor brunnescens in drying, oblong-cylindric, glabrous, the rim deeply 5-lobed, the lobes triangular-ovate, 6-10 mm. long, apically attenuate-acute, erect; corolla infundibular, vivid rose-color when fresh, its tube infundibular, broadly cylindric, 3-4 cm. long, about twice as long as the calyx, apically greatly ampliate, externally microscopically pulverulent-puberulent or glabrate, the lobes broadly elliptic, about 1.5 cm. long, apically rounded; stamens about equaling the corolla-limb; pistil slightly exserted; fruiting-calyx and fruit not known.

This endemic Madagascar species is based on Decary 18257 from Lakato, Moromanga District, Madagascar, collected on September 5, 1942, and deposited in the Paris herbarium. Thus far it is known to me only from the original collection.

A key to help distinguish this species from other Madagascar taxa in this genus will be found under *C. baronianum* Oliv. in the present series of notes [58: 184-190].

Citations: MADAGASCAR: Decary 18257 (E--photo of type, F--photo of type, Ld--photo of type, N--fragment & photo of type, P--type).

CLERODENDRUM MORIZONO Chiov., Racc. Bot. Miss. Consol. Kenya 98 [as "Clerodendron"] J. 1935; Mold., Known Geogr. Distrib. Verbenac., ed 1, 50 & 90. 1942.

Synonymy: *Clerodendron morizono* Chiov., Racc. Bot. Miss. Consol. Kenya 98. 1935.

Bibliography: Chiov., Racc. Bot. Miss. Consol. Kenya 98. 1935; Hill, Ind. Kew. Suppl. 9: 68. 1938; Mold., Known, Geogr. Distrib. Verbenac., ed. 1, 50 & 90 (1942) and ed. 2, 117 & 182. 1949; Mold., Résumé 146 & 451. 1959; Mold., Fifth Summ. 1: 240 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 230 & 540. 1980.

Nothing is known to me of this taxon except that it is supposed to be a native of Kenya.

CLERODENDRUM MOSSAMBICENSE Klotzsch in Peters, Naturwiss. Reise Mossamb. 6 Bot. 1: 259 [as "Clerodendron"]. 1861; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 37, 63, & 94. 1936.

Synonymy: *Clerodendron mossambicense* Klotzsch in Peters, Naturwiss. Reise Mossamb. 6 Bot. 1: 259. 1861. *Clerodendron stenanthum* Klotzsch in Peters, Naturwiss. Reise Mossamb. 6 Bot. 1: 258-259. 1861. *Clerodendrum stenanthum* Klotzsch apud B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 63 in syn. 1936.

Bibliography: Klotzsch in Peters, Naturwiss. Reise Mossamb. 6 Bot. 1: 258-259. 1861; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561. 1893; Gürke in Engl., Pflanzenw. Ost-Afr. C: 340. 1895; K. Schum., Justs Bot. Jahresber. 28 (1): 496. 1900; Bakh. in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 86, 110, & ix.

1921; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 37, 63, & 94. 1936; Mold., Alph. List Inv. Names 20. 1942; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 49, 51, & 90. 1942; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 2, 1: 561. 1946; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 116, 120, & 182. 1949; Mold., Résumé 144, 150, 270, & 451. 1959; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 3, 1: 561. 1960; Mold., Résumé Suppl. 9: 3 (1964) and 15: 8. 1967; Mold., Fifth Summ. 1: 236, 251, 451, & 456 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 225, 240, & 540. 1980; P. Holmgren & al., Ind. Vasc. Pl. Type Microf. 441. 1985; Mold., Phytologia 58: 303 & 422 (1985), 59: 415 (1986), and 61: 281. 1986.

Collectors describe what I take to be material of this species as a shrub, 1--2 m. tall, many-stemmed, with white corollas, growing in "solos argilo-coraligeros pardos", at 10 m. altitude, flowering in March, with the vernacular names "namunepa" and "ndumbi".

Thomas (1936) describes the species in his key as "Blütenstand einseitswendig, kopfig, endständig am Zweigende; Brakteen elliptisch-lanzettlich; Blätter bis 12 cm lang; keine Dornen; niedrige Sträucher". He also states that the petioles are over 1 cm. long, the leafblades, petioles, branches, and corolla-tubes glabrous or subglabrous. According to a letter received from Sir George Taylor, dated June 13, 1966, the *Lamos & Macuácia* 50, *Mendonga* 1242, and *Torre & Paiva* 12101 which I sent to Kew for examination were duly examined there "but in the absence both of material of this species and specimens to match [the] Torre & Paiva [material] no identification was possible". The collections cited below are placed here tentatively -- the *Lamos & Macuácia* 50 was originally distributed as "aff. *C. buchneri* Gürke".

Gürke (1895) asserts that *C. mossambicense* is related to *C. fischeri* var. *robustum* (Klotzsch) Thomas; Bakhuizen (1921) reduces it to synonymy under *C. capitatum* (Willd.) Schum. & Thonn., as does Schumann (1900). The Schumann reference is sometimes cited as "1902" which is the titlepage date.

Thomas (1936) cites the type, *Peters* s.n., collected in 1843, and another Peters collection from Rios de Sena, Mozambique, as well as, from Tanganyika, *Busse* 2491 & 2901 and *Schlieben* 6515.

Citations: MOZAMBIQUE: Cabo Delgado: *Torre & Paiva* 12101 (Ld, UI). Moçambique: *Lamos & Macuácia* 50 (UI).

CLERODENDRUM MOSSAMBICENSE var. **GLABRUM** Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 63. 1936.

Bibliography: B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 63. 1936; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 49 & 90 (1942) and ed. 2, 116 & 180. 1949; Mold., Résumé 144 & 451. 1959; Mold., Fifth Summ. 1: 236 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 225 & 540. 1980; P. Holmgren & al., Ind. Vasc. Pl. Type Microf. 441. 1985.

This variety differs from the typical form of the species in having the calyx-lobes glabrous and not ciliate-margined.

The variety is based on *Busse* 2335 from Lindi, Tanganyika (Tanzania), collected on April 30, 1903, and deposited in the Berlin

herbarium, now destroyed. It is known to me thus far only from the original collection.

Citations: TANZANIA: Tanganyika: Busse 2335 (Br--isotype, Ld--photo of isotype, N--fragment & photo of isotype).

CLERODENDRUM MULTIBRACTEATUM Merr., Philip. Journ. Sci. Bot. 7: 98--99 [as "Clerodendron"] 1912; Mold., Alph. List Comm. Vern. Names 24. 1939.

Synonymy: *Clerodendron multibracteatum* Merr., Philip. Journ. Sci. Bot. 7: 98. 1912.

Bibliography: E. D. Merr., Philip. Journ. Sci. Bot. 7: 98--99. 1912; H. J. Lam, Verbenac. Malay. Arch. 270 & 364. 1919; Bakh. in Lam & Bakh., Bull. Jard. Buitenz., ser. 3, 3: 95. 1921; Prain. Ind. Kew. Suppl. 5, imp. 1, 62. 1921; E. D. Merr., Enum. Philip. Flow. Pl. 3: 404. 1923; Mold., Alph. List Comm. Vern. Names 24. 1939; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 62 & 90. 1942; Mold., Phytologia 2: 100. 1945; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 141 & 182. 1949; Mold., Résumé 183 & 451. 1959; Prain, Ind. Kew. Suppl. 5, imp. 2, 62. 1960; Mold., Fifth Summ. 1: 316 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 307 & 540. 1980; Mold., Phytologia 62: 139. 1987.

A shrub or tree, 4--9 m. tall; branches terete, brownish, lenticellate; branchlets rather densely pubescent with short appressed hairs; leaves decussate-opposite; petioles 1.5--2.5 cm. long, pubescent; leafblades subcoriaceous, oblong to oblong-ovate, 8--13 cm. long, 4--5.5 cm. wide, apically acuminate (the acumen itself often rather slender and blunt), marginally entire or rarely with a few, scattered, irregular teeth, basally acute or somewhat rounded, glabrous above except for the somewhat pubescent larger venation, pubescent on the larger venation also beneath and with numerous, minute, shining glands; secondaries 6--8 per side, prominent; veinlet reticulation rather loose; inflorescence terminal, paniculate, 10--15 cm. long, the ramifications somewhat spreading, pubescent, naked below, each subtended by large bracts, the flowers crowded at the apices of the ramifications and surrounded by numerous bracts and bractlets; lower bracts 2.5 cm. long, upper ones and bractlets thin, narrowly ovate or ovate, 1--1.5 cm. long, apically acuminate, basally narrowed, sparingly pubescent and glandular, white during anthesis, persistent and pink or purplish in fruit; calyx somewhat longitudinally plicate, the lobes broadly ovate, 5--6 mm. long, apically acuminate; corolla hypocrateriform, white, the tube cylindric, about 5 mm. long, 2 mm. wide, nearly glabrous, the lobes narrowly elliptic-ovate, 5--6 mm. long, 2.5 mm. wide, recurved, apically obtuse or acute, slightly pubescent; filaments long-exserted, recurved; anthers 1.5 mm. long; style 1.5 cm. long; fruiting-calyx loosely enclosing the fruit, pink or purplish; fruit drupaceous, globose, about 6 mm. long and wide.

This species is based on Vanoverbergh 777 from forests, at 1550 m. altitude, at Malamey, Bontoc Subprovince, Luzon, Philippine Islands, collected in flower on August 28, 1910. Merrill (1912) cites also Klemme, Herb. Philip. For. Bur. 5713 from Luzon and Merrill

5516 from Mindoro. He notes that this is "A species probably as near *Clerodendron macrostegium* Schauer as to any other species, but entirely different from that form, and not closely allied to it. It is well characterized by its rather large, numerous, crowded, white or colored bracts and bracteoles which persist until after the fruit is matured, its oblong leaves, and its short flowers". In his 1923 work he describes it as endemic "in the mossy forests, altitude 1,600 to 2,000 m." A vernacular name reported for it is "palutan".

Collectors have found the plant in flower from August to December and in fruit in November and December.

Material of *C. multibracteatum* has been misidentified and distributed in some herbaria as *C. infortunatum* L. On the other hand, the Loher 13371, distributed as *C. multibracteatum*, actually is *C. macrostegium* Schau., while Ramos & Edaño, Herb. Philip. Bur. Sci. 48479 is *C. philippinense* Elm.

Citations: PHILIPPINE ISLANDS: Luzon: Klemme, Herb. Philip. For. Bur. 5713 (N, W--2376366); Loher 12423 (Mu--4373); Ramos & Edaño, Herb. Philip. Bur. Sci. 37836 (Bz--19705); Vanoverbergh 777 (Ld--photo of type, Vi--isotype, W--900053--isotype), 2369 (Ws). Mindoro: E. D. Merrill 5516 (N, W--710765).

CLERODENDRUM MÜNZNERI Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 105. 1936.

Synonymy: *Clerodendrum muenzneri* Thomas apud Mold., Known Geogr. Distrib. Verbenac., ed. 1, 49 & 90. 1942. *Clerodendron muenzneri* Berthold Thomas apud Hill & Salisb., Ind. Kew. Suppl. 10: 55. 1947.

Bibliography: B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 46, 83, 94, & 105. 1936; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 49 & 90. 1942; Hill & Salisb., Ind. Kew. Suppl. 10: 55. 1947; Mold., Alph. List Inv. Names Suppl. 1: 7. 1947; H. N. & A. L. Mold., Pl. Life 2: 73. 1948; Mold., Known Geogr. Distrib. Verbenac., ed. 2, 116 & 182. 1949; Mold., Résumé 144, 273, & 451. 1959; Mold., Fifth Summ. 1: 236 & 464 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 225 & 540. 1980.

A shrub, about 1.5 m. tall; flowering branches obtusely angular, sulcate, rather densely short-puberulent; principal internodes rather elongate; leaves ternate; petioles short but distinct, 1--2 cm. long; leafblades membranous, fragile in drying, ovate or broadly ovate, 12--16 cm. long, 8--11 cm. wide, apically "breviter longe lateque cuneatim angustata", marginally entire on the lower portion but coarsely and irregularly crenate on the upper portion with minutely apiculate teeth, short-pilose above with hairs situated on small tubercles, very shortly villous-puberulent beneath; venation prominent on both surfaces; inflorescence paniculate, the panicles elongate, foliose, with elongated sympodia, the leaves gradually diminishing in size upwards, the uppermost bract-like, the axillary cymes ternate, the lower ones 10--11 cm. long, long-pedunculate, loose; bracts and bractlets small, subulate, villous-puberulent; calyx conic-campanulate, about 9 mm. long, villosulous, 5-lobed to about 1/3 its length, the lobes rounded or semi-elliptic, erect to spreading, not reflexed, basally 3--4 mm. wide, with sessile glands

on the inner surface; corolla blue, distinctly zygomorphic, the tube 9 mm. long, curvate, constricted at the mouth, the posterior side split to the middle, the lobes narrowly obovate, somewhat ciliate, "4--6 fere aequalibus" and about 8 mm. long, the fifth larger, concave, and about 12 mm. long; stamens inserted at about 2/3 the length of the tube, long-exserted; filaments subequal, about 4 cm. long, basally villous; anthers 1 mm. long; style long-exserted; stigma bifid, the branches 2 mm. long; ovary glabrous ("intus glabrum"); mature fruit not known.

This species, a member of the Subgenus *Cyclonema*, is based on Fromm & Münzner 108 from woody veld on limestone substrate, at 1800 m. altitude, at Msamvia, southern Ufipa, Tanganyika, collected on January 8, 1909, and deposited in the Berlin herbarium, now destroyed. The species is known thus far to me only from the type collection and nothing is known to me of it beyond what is stated in the brief bibliography (above). A key to help distinguish it from the other African taxa of *Cyclonema* as accepted by Thomas (1936) will be found under *C. myricoides* (Hochst.) R. Br. in the present series of notes.

CLERODENDRUM MULTIFLORUM (Burm. f.) Kuntze, Rev. Gen. Pl. 2: 506
[as "Clerodendron"]. 1891.

Synonymy: *Volkameria multiflora* N. L. Burm., Fl. Indica 137, pl. 45-1. 1768.

This binomial is used for what we call *C. phlomidis* L. f. by Bakhuizen in Lam & Bakh., Bull. Jard. Bot. Buitenz., ser. 3, 3: 75, 84, 110, & ix. 1921; Rau, Bull. Bot. Surv. India 10 Suppl. 2: 62. 1969; M. L. & M. M. Dhar & al., Indian Journ. Exp. Biol. 9: 94. 1971; etc., but is invalidated by the *Clerodendrum multiflorum* of G. Don [Edinb. New Philos. Journ. 11: 350. 1824] -- see under *C. phlomidis* L. f. in the present series of notes.

A letter received by me from Mrs. L. Pinner, Compiler of the Index Kewensis, dated November 7, 1972, says, in part: "It would appear that the Kuntze name is a later homonym as I see nothing wrong with the [validity of] the description of *C. multiflorum* G. Don".

CLERODENDRUM MYRIANTHUM Mildbr., Notizbl. Bot. Gart. Berlin 11: 677-678 [as "Clerodendron"] J. 1932; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 41, 73, & 94. 1936.

Synonymy: *Clerodendron myrianthum* Mildbr., Notizbl. Bot. Gart. Berlin 11: 677. 1932.

Bibliography: Mildbr., Notizbl. Bot. Gart. Berlin 11: 677--678. 1932; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 8, 11, 16, 41, 73, & 94. 1936; A. W. Hill, Ind. Kew. Suppl. 9: 68. 1938; Fedde & Schust., Justs Bot. Jahresber. 60 (2): 571. 1941; Mold., Known Geogr. Distrib. Verbenac., ed. 1, 49 & 90 (1942) and ed. 2, 116 & 182. 1949; Mold., Résumé 144 & 451. 1959; Mold., Fifth Summ. 1: 236 (1971) and 2: 869. 1971; Mold., Phytol. Mem. 2: 225, 387, & 540. 1980; P. Holmgren & al., Ind. Vasc. Pl. Type Microf. 441. 1985.

A woody shrub or liana, often high-climbing and at least to 15 m. long; older flowering branches glabrous, about 5 mm. thick, dark-violet, with pale elongated lenticels; leaves decussate-opposite;

petioles 3--5 cm. long, glabrous, geniculate, basally incrassate, the basal portion long-persistent and spinescent after the blade has been shed; leafblades oval or narrowly ovate, 15--23 cm. long, 8--13 cm. wide, apically rather long-acuminate to almost caudate-acuminate, marginally obsoletely undulate, basally rounded, dark olivaceous above in drying, impressed-punctate (under a hand lens) beneath; midrib impressed above, very prominent beneath; secondaries 6 per side, arcuate-ascending, arcuately joined near the margins, impressed above, very prominent beneath; inflorescence paniculate, the panicles large, pyramidal or ovoid in outline, rarely subcorymbose, arising from the axils of the leaves at the base of the branches or sometimes above the axils, very dense, to 24 cm. long and 12 cm. wide; flowers comparatively small, fetid; calyx campanulate-rotate, about 5 mm. long in all, the lobes recurved-spreading, about 2.5 mm. long, apically gradually acuminate; corolla white, hypocrateriform, glabrous, the tube scarcely 1 cm. long, slightly narrowed toward the mouth, the lobes obovate-oval, about 3 mm. long; stamens very long-exserted; filaments about 2.5 cm. long, glabrous; style filiform, about 3 cm. long, glabrous; ovary depressed-globose, glabrous, 4-sulcate.

This apparently endemic species is based on H. J. Schlieben 2143 from a creek valley with boulders and groups of trees, at 900 m. altitude, at Liondo, not far from the Mahenge station, Mahenge, Tanganyika (Tanzania), collected in flower on April 30, 1932, and deposited in the Berlin herbarium, now unfortunately destroyed. Mildbraed (1932) comments that "Die Angabe des Sammlers über den Wuchs ist etwas zweifelhaft. Ich nehme an, dass es sich um eine Liane handelt, die sich über eine Baumkrone ausbreitet. Die Beschaffenheit der Blattstiele spricht für einen Klimmstrauch. Die neue Art hat kleine Blüten in sehr grossen dichten Rispen. Sie dürfte *C. toxicarium* Bak. am nächsten kommen, unterscheidet sich von diesem aber schon durch die unterseits kahlen Blätter."

It should be pointed out here that Thomas (1936) erroneously writes the original publication citation of *C. myrianthum* as "Notizbl. Bot. Gart. Berlin 107 (1932)" -- the "107" is merely the issue number, not either a volume or page number. He cites only the original collection.

Collectors have found this plant growing at 800--1000 m. altitude, in flower in April. Material has been misidentified and distributed in some herbaria as *C. glabratum* Gürke and *C. scheffleri* Gürke.

Citations: TANZANIA: Tanganyika: Peter 311 [0.I.10.B] (B, B); Schlieben 2143 (B--type, B--isotype, Br--isotype, Ld--photo of isotype, Mu--isotype, N--fragment & photo of isotype).

CLERODENDRUM MYRICOIDES (Hochst.) R. Br. in Salt, Voy. Abyss. app. lxxv nom nud. [as "Clerodendron"]. 1814; Steud., Nom. Bot. Phan., ed. 2, 1: 383. 1840; Schau. in A. DC., Prodr. 11: 675. 1847 [not *C. myricoides* Auct., 1962].

Synonymy: *Clerodendrum myricoides* "R. Br. in Salt." ex Steud., Nom. Bot. Phan., ed. 2, 1: 383. 1840. *Spironema myricoides* Hochst.,

Flora [Bot. Zeit. Regensb.] 25: 226 in syn. 1842. *Cyclonema myricoides* Hochst., Flora [Bot. Zeit. Regensb.] 25: 226. 1842. *Cyclonema serratum* Hochst., Flora [Bot. Zeit. Regensb.] 25: 227. 1842. *Cyclonema sylvaticum* Hochst., Fl. Ratisb. 1: 225. 1842. *Cyrtostemma myricoides* Kunze, Bot. Zeit. 1: 272. 1843. *Cyclonema myricoides* φ *sylvaticum* Schau. in A. DC., Prodr. 11: 676. 1847. *Clerodendron myricoides* R. Br. apud A. Rich., Tent. Fl. Abyss. 2: 171 in syn. 1851. *Cyclonema myricoides* var. *glabrata* Schweinf. ex Oliv., Trans. Linn. Soc. Lond. 29: 133. 1875. *Cyclonema myricoides* Hook apud Edgeworth, Pollen, ed. 1, 76. 1877. *Clerodendrum myricoides* (Hochst.) Vatke, Linnaea 45: 535, 1882, *Clerodendron myricoides* var. *glabra* Schweinf. ex Engl., Hochgebirgsfl. Trop. Afr. 356. 1892. *Clerodendron myricoides* (Hochst.) Gürke ex Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 176. 1895. *Siphonanthus myricoides* (Hochst.) Hiern, Cat. Afr. Pl. Welw. 4: 844. 1900. *Cyclonema myricoides* var. *sylvaticum* Schau., apud H. H. W. Pearson in Thiselt.-Dyer, Fl. Cap. 5: 223 in syn. 1901. *Clerodendron myricoides* Gürke apud Durand & Jacks., Ind. Kew. Suppl. 1, 101 in syn. 1901. *Cyclonema myricoides* (Hochst.) Schau. apud Almagia in Pirotta, Fl. Colon. Erit. [Ann. Ist. Bot. Roma 8:] 134. 1903. *Siphonanthus myricoides* Hiern apud Thiselt.-Dyer, Ind. Kew. Suppl. 2: 172. 1904. *Clerodendron myricoides* α *typicum* Fiori, Buschi Piante Legn. Eritrea [Bibl. Agr. Colon. 7:] 324. 1912. *Clerodendron myricoides* γ *sylvaticum* Hochst. ex Fiori, Buschi Piante Legn. Eritrea [Bibl. Agr. Colon. 7:] 324. 1912. *Clerodendrum nigricoides* Hochst. ex Irvine, Pl. Gold Coast 109 sphalm. 1930. *Clerodendrum myricoides* var. *silvaticum* Schau. apud B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 86 in syn. 1936. *Clerodendrum myricoides* var. *eumyricoides* Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 86. 1936. *Cyclonema silvatica* Hochst. apud B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 86 in syn. 1936. *Cyclonema serrata* Hochst. apud B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 86 in syn. 1936. *Clerodendron sylvaticum* Briq. ex Mold., Alph. List Inv. Names 20 in syn. 1942. *Clerodendron myricoides* (Hochst.) Vatke ex Mold., Alph. List Inv. Names 19 in syn. 1942. *Clerodendron myricoides* Vatke ex Mold., Résumé 451 in syn. 1959. *Clerodendron myricoides* var. *glabra* "Schweinf. ex Engl." apud Cuf., Bull. Jard. Bot. Brux. 32: Suppl. 800 in syn. 1962. *Clerodendrum myricoides* *eumyricoides* Thomas apud Cuf., Bull. Jard. Bot. Brux. 32: Suppl. 800 in syn. 1962. *Cyclonema myricoides* var. *silvaticum* (Hochst.) Schau. apud Cuf., Bull. Jard. Bot. Brux. 32: Suppl. 800 in syn. 1962. *Clerodendron myricoides* "(Hochst.) R. Br. ex Vatke" apud Boaler, Journ. Ecol. Brit. 54: 473. 1966. *Clerodendrum myricoides* "(Hochst.) R. Br. ex Vatke" apud Astle, Kirkia 7: 95. 1968. *Clerodendron myricoides* "(Hochst.) sensu lato Vatke R. Br. ex Vatke" apud Richards & Morony, Check List Fl. Mbala 237. 1969.

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Schau. in A. DC., Prodr. 11: 675--676. 1847; A. Rich., Tent. Fl. Abyss. 2 [Voy. Abyss. 3 (5)]: 171. 1851; Buek, Gen. Spec. Syn. Candoll. 3: 108. 1858; Bocq., Adansonia, ser. 1 [Baill., Rec. Observ. Bot.] 3: [Rev. Verbenac.] 217, pl. 15. 1863; Aschers. in G. Schweinf. Beitr. Fl. Aethiop. 1: 119 & 278. 1867; Hook. f., Curtis Bot. Mag. 96 [ser. 3, 26]: pl. 5838. 1870; Oliv.; Trans. Linn. Soc. Lond. 29: 133. 1875; Edgeworth, Pollen, ed. 1, 26, 76, & 94, pl. 1 (8) & 6, fig. 100 (1877) and ed. 2, 26, 76, & 94, pl. 1 (8) & 6, fig. 100. 1879; Vatke, Linnaea 43: 535. 1882; Balf. f., Trans. Roy. Soc. Edinb. 31 [Bot. Socotra] 235 & 417. 1888; Engl., Hochgebirgsfl. Trop. Afr. 356--357. 1892; Gürke, Engl. Bot. Jahrb. 18: 181 & 182. 1893; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 1: 561 & 705. 1893; Briq. in Engl. & Prantl, Nat. Pflanzenfam., ed. 1, 4 (3a): 176. 1895; Gürke in Engl., Pflanzenw. Ost-Afr. C: 341. 1895; Jacks. in Hook. f. & Jacks., Ind. Kew., imp. 1, 2: 967. 1895; J. G. Baker in Thiselt.-Dyer, Fl. Trop. Afr. 5: 295, 310, 311, 515, & 519. 1900; Gürke, Engl. Bot. Jahrb. 28: 298--301, 303, & 304. 1900; Hiern, Cat. Afr. Pl. Welw. 4: 844--846. 1900; K. Schum., Justs Bot. Jahresber. 28 (1): 496. 1900; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 1, 101. 1901; H. H. W. Pearson in Thiselt.-Dyer, Fl. Cap. 5: 218 & 223. 1901; K. Schum., Justs Bot. Jahresber. 28 (1): 496. 1902; Wood, Natal Pl. 3 (4): pl. 282. 1902; Almagia in Pirotta, Ann. Ist. Bot. Roma 8: [Fl. Col. Erit.] 134. 1903; Gürke in Warb., Kunene-Sambesi Exped. 351. 1903; Hegi in Warb., Kunene-Sambesi Exped. 443. 1903; Thiselt.-Dyer, Ind. Kew. Suppl. 2: 172. 1904; S. Moore in Baker, Moore, & Rendle, Journ. Linn. Soc. Lond. 37: 194 & 198. 1905; Gibbs, Journ. Linn. Soc. Lond. Bot. 37: 464. 1906; DeWild., Ann. Mus. Cong. Belg., ser. 5, 3: 134--135. 1909; Fiori, Boschi Piante Legn. Eritrea 324. 1909; DeWild., Bull. Jard. Bot. Brux. 3: 267. 1911; Fiori, Agric. Colon. Ital. 5: Suppl. 100--101. 1911; S. Moore in Rendle & al., Journ. Linn. Soc. Lond. Bot. 40: 167. 1911; DeWild., Ann. Mus. Cong. Belg. Bot., ser. 5, 3: 468. 1912; Fiori, Buschi Piante Legn. Eritrea [Bibl. Agr. Colon. 7]: 323--324. 1912; DeWild., Bull. Roy. Soc. Bot. Belg. 51 (3) [ser. 2, 1]: 47, 91, 188, 280, & 294. 1913; DeWild., Feddes Repert. Spec. Nov. 13: 145. 1914; Holland, Kew Bull. Addit. Ser. 9 [Useful Pl. Nigeria 3]: 523. 1915; R. E. Fries in Von Rosen, Wiss. Ergebn. Schwed. Rhod.-Kong.-Exped. Bot. 1: 275 (1916) and 2 (2): 275. 1916; H. Hallier, Meded. Rijks Herb. Leid. 37: 78. 1918; DeWild., Bull. Jard. Bot. Brux. 7: 179. 1920; DeWild., Pl. Bequaert. 2: 265--266 & 269--270. 1922; Good & Exell, Journ. Bot. Brit. 68, Suppl. 2: 141. 1930; Irvine, Pl. Gold Coast 109. 1930; Stafp., Ind. Lond. 2: 239 & 380. 1930; Fedde & Schust., Justs Bot. Jahresber. 53 (1): 1072. 1932; Watt & Breyer-Brandwijk, Med. Poisons Pl. S. Afr., ed. 1, 155 & 230. 1932; A. W. Hill, Ind. Kew. Suppl. 8: 54. 1933; Junell, Symb. Bot. Upsal. 1 (4): 101, 106, & 107. 1934; B. Thomas, Engl. Bot. Jahrb. 68: [Gatt. Clerod.] 10, 14, 16, 17, 47, 48, 86, & 94. 1936; Ball, Kew Bull. Misc. Inf. 1937: 24. 1937; Mold., Annot. List 108, 1939; Mold., Alph. List Comm. Vern. Names 28. 1939; Mold., Geogr. Distrib. Avicenn. 37. 1939; Durand & Jacks., Ind. Kew. Suppl. 1, imp. 2, 101. 1941; Hutchinson & Bruce in Gillett, Kew Bull. Misc. Inf. 1941: 177. 1941; Mold., Alph. List Inv.

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Afr. Nat. Hist. Soc. Nat. Mus. 154: 25. 1975; Moriarty, Wild Fls. Malawi 139 & 140, pl. 70. 1975; L. H. & E. Z. Bailey, Hortus Third 286. 1976; Isaacson, Flora. Pl. Ind. 1: 336. 1979; Mold., Phytologia 46: 183. 1980; Mold., Phytool. Mem. 2: 201--204, 210, 219, 222, 223, 225, 226, 229, 230, 232, 235, 237, 240, 245, 249, 350, 387, 392, 396, 437, & 540. 1980; Blundell, Wild Fls. Kenya 108 & 155, pl. 44, fig. 285. 1982; P. Holmgren & al., Ind. Vasc. Pl. Type Microf. 442. 1985; Mold., Phytologia 57: 37, 339, 471, 472, & 476 (1985), 58: 185, 332, 357, 358, & 442 (1985), 59: 110, 248, 249, 255, 258--264, 266, 350, 410, & 480 (1986), and 62: 128 & 200. 1987; Gillett, Tweedie, & Fulton, Guide Some E. Afr. Upland Fls. 6. n.d.

Illustrations: Bocq., Adansonia, ser. 1 [Baill., Rec. Observ. Bot.], 3: [Rev. Verbenac.] pl. 15. 1863; Hook. f., Curtis Bot. Mag. 96 [ser. 3, 26]: pl. 5838 (in color). 1870; Edgeworth, Pollen, ed. 1, pl. 1, fig. 8, & pl. 6, fig. 100 [cytol.]. 1877; Wood, Natal Pl. 3 (4): pl. 282. 1902; Fiori, Boschi Piante Legn. Eritrea 324. 1909; Fiori, Agric. Colon. Ital. 5: Suppl. 101. 1911; Fiori, Bibl. Agr. Colon. 7: 324. 1912; Mold. in Humbert, Fl. Madag. 174: 159, fig. 24 (4). 1956; Lind & Tallantire, Some Comm. Flow. Pl. Uganda, ed. 1, fig. 90. 1962; W. C. Burger, Fam. Flow. Pl. 198, fig. 60. 1967; Uganda postage stamp Minkus no. 122 (in color). 1969; Lind & Tallantire, Some Comm. Flow. Pl. Uganda, ed. 2, [151], fig. 90. 1971; J. F. Morton, Exot. Pl. 120 (in color). 1971; Palmer & Pitman, Trees South. Afr., ed. 2, 1966 & 1967. 1972; Moriarty, Wild Fls. Malawi 139, pl. 70. 1975; Blundell, Wild Fls. Kenya pl. 44, fig. 285 (in color). 1982.

A scrambling bush or scandent to erect shrub, or even a small tree, 1--4.5 m. tall, branched and spreading, rarely herbaceous, very polymorphic and variable, fetid; stems basally gray to light-brown, to 1.25 cm. thick, the younger ones green with red on the angles; branches terete or angled, few, striate, prominently lenticellate, with yellowish-brown or light-brown bark, the younger parts pubescent with short multicellular hairs or glabrescent; branchlets medium, gray, obtusely tetragonal, glabrous or glabrescent; leaf-scars prominent; floriferous twigs very slender, green or brownish, glabrous, bearing a few groups of leaves at the base and then numerous groups of cymes in the axils of leaf-like bracts; nodes not annulate; principal internodes 2--6 cm. long; leaves mostly ternate, small, petiolate or subsessile, with a disagreeable odor, the younger ones pinkish-brown; petioles very slender, 0.2--2 cm. long, often winged, or obsolete, glabrate or minutely and obscurely pulverulent or puberulent, sometimes pubescent on immature leaves; leafblades membranous, uniformly green on both surfaces or lighter beneath, broadly elliptic or elliptic to oblong, 4--17 cm. long, 1.5--7.5 cm. wide, mostly 1½--2½ times as long as wide, apically acute to rather long-acuminate, rarely rounded, marginally irregularly and acutely or obtusely serrate or incised-serrate toward the apex or subentire (the teeth sometimes apiculate), sometimes reddish-brown, basally long-acuminate or cuneate and prolonged into the more or less alate petiole, glabrous or practically so on both surfaces or very minutely and obscurely scattered-strigillose above and pulverulent or

finely pubescent beneath, more densely pubescent with short multicellular hairs when immature but usually soon glabrescent; midrib very slender, mostly flat above and prominulous beneath; secondaries very slender, 4--7 per side, arcuate-ascending, flat above, conspicuous and slightly sub prominulous beneath, only the uppermost ones plainly joined in broad loops near the margins; tertaries few and irregular; veinlet reticulation fine, mostly obscure; inflorescence terminating short and leafy axillary branchlets or twigs; cymes borne axillary to the foliaceous bracts in rather elongated terminal panicles, each cyme rather few- (mostly 1--4-) flowered, long-pedunculate, lax, widely divergent or reflexed, bracteate; panicles often elongate, to 25 cm. long and 12 cm. wide, the sympodia elongate, very slender, finely puberulent or glabrate; peduncles to 5 cm. long, red above, green beneath; bracts large and foliaceous, similar to the leaves in all respects but smaller, elliptic to lanceolate, caducous; bractlets and prophylla linear or linear-lanceolate to filiform, 1--7 mm. long, glabrate or ciliate; pedicels 2--5 mm. long; flowers fetid or "sweet-scented" [*fide* Maas-Geesteranus]; buds black; calyx broadly campanulate, 4--7 mm. long, green, flushed with purple, or reddish-green, externally glabrous or with a few, short, scattered hairs, the tube campanulate, its rim 5-lobed, ciliate, the lobes foliaceous, short, ovate or broadly ovate, spreading, 4--5 mm. long, slightly longer than the tube, apically obtuse or rounded, profusely glandular, with the intervening sinuses sharply acute; corolla zygomorphic, blue or violet, occasionally white, to 1.8 cm. long, the tube short, curvate, to about 8 mm. long, villous in the throat, otherwise glabrous, the limb about 1.5 cm. wide, the 4 upper lobes obovate or oblong, often white or greenish-white to pale-blue, subequal, 8--13 mm. long, apically obtuse or rounded, the lower lobe obovate-cuneate or spatulate, about twice as long as the upper ones, concave, usually pale- or deep-blue, about 2 cm. long; stamens long-exserted, 2--2.5 cm. long, arcuate; filaments incrassate, pale purplish-violet to gray-blue or white, densely villous with shaggy hairs on the lower half; anthers short, brown, 1--2 mm. long; receptacle purple-blue; style long-exserted, white to gray-blue; stigma shortly bifid; ovary globose, black, externally glabrous, glandular, 2-celled, with 2 ovules in each cell; fruiting-calyx accrescent, 9--12 mm. wide; fruit drupaceous, apically 10--12 mm. wide, deeply lobed, at first blue, black when ripe, composed of 4 nutlets, 2--4 seeded.

This very variable species is found from the Sudan, Ethiopia, Eritrea, and Somalia, through Zaire, Tanzania, and Kenya, to Zimbabwe, Angola, the Transvaal, and Madagascar, it occurs in cultivation in the United States and Europe. Eight rather poorly defined varieties occur in parts of central Africa.

The so-called *Clerodendron myricoides* var. *attenuatum* DeWild. is what we now call *C. quadrangulatum* Thomas, var. *cuneatum* (Gürke) H. W. Pearson is now known as *C. cuneiforme* Mold., which see, while var. *laxum* Gürke appears to be a synonym of var. *camporum* Gürke and *Siphonanthus myricoides* var. *herbacea* Hiern seems to be a herbaceous Angolan form based on Welwitsch 5768.

Schauer (1847) describes his var. *sylvaticum* as "foliis obovatis hirtis praesertim ad venas, calycibus hirto-pubescentibus, floribus minoribus", based on Krauss 333 from South Africa, and notes that it is a "Forma magis pubescentes, in hac familia vix tanquam verae varietates notandae". From the description it would seem that this so-called variety may well be a form of *C. discolor* (Klotzsch) Vatke, but Thomas (1936) maintains it as a synonym of typical *C. myricoides*. An unnumbered Krauss specimen, collected in October of 1839, examined by me, is plainly *C. discolor* var. *oppositifolium* Thomas, which see. Almagia (1903) mis-cites the Schauer (1947) reference to page "670" instead of page 676.

Collectors have encountered what appears to be typical *C. myricoides* on moist brushy slopes by streams, in loam, in sandy soil at the edges of swamps, in thick undergrowth, in littoral woods and in woods near streams, on grasslands, in clearings, along streamsides, along roadsides, in savannas and scrubland, in secondary forests and at forest margins, in old streambeds, in secondary *Brachystegia* woods, and in damp places in general, at altitudes of 125--2800 m., in flower from March to January, and in fruit in April, May, and October. Burger calls it a "common shrub" in Ethiopia, where, he avers, it grows on rolling hills with extensive cultivation of sorghum and maize in dark-brown soil with an Hp of 6.5--7.8. Jacobsen (1973) describes it as occasional in riparian thickets. Lucas, in Kenya, refers to it as scattered around the edges of forests, usually in the more open situations. In Uganda Langsdale-Brown and his associates (1964) found it to be sparse in areas regularly burned with intermittent grazing and in cultivation for at least 20 years. Compton (1966) reports it "scarce by water" in Swaziland; in the Transvaal Smuts & Gillett describe it as "scrambly bushes under big trees"; in the Kruger National Park it is said by Van der Schijff (1969) to grow "in bushgroups and rocky koppies". Venter (1972) found it in Zululand.

Maas-Geesteranus, in Kenya, encountered *C. myricoides* "in open savanna-woodland along the south edge of a forest with scattered *Acacia lahel*, *Erythrina* sp. cfr. *tomentosa*, *Syzygium cordatum* and clumps of shrubs in boulder-strewn country sloping southward".

Linsen & Giesem describe *Clerodendrum myricoides* in Kenya as a "small erect shrub, 1--2 m. tall, at base stem is less than 1 cm. thick and gray to light-brown, younger stem is green with red especially along corners, sometimes leaf-margin is reddish-brown, peduncles red on top, green beneath, calyx green to reddish-green and with a purple margin, corolla has biggest petal dark-blue to purple, other petals pale-blue to purple in front and creamy-gray at back, stamens and gynoecium white to gray-blue, anthers brown, receptacle purple-blue -- on volcanic slopes with rocky scrubland, often as solitary shrubs."

Palmer & Pitman (1972) tell us that "*Clerodendrum myricoides* [in southern Africa] appears to be principally a Transvaal species, growing from Pretoria through the central districts to the north, and is also reported from Natal, Swaziland and Botswana. It grows in bush-veld, scrub, grassveld, in dune and river forest, and on

rocky koppies and hillsides.....It is usually a shrub but occasionally grows into a tree up to 4.5 m. high, with a slender greyish-white or brown flaky bark and smooth rather angled branches marked with many leaf scars.....This neat, pretty little tree has been cultivated at the Botanic Gardens at Brummeria on the outskirts of Pretoria, but it is doubtful if it has found its way into private gardens." Dale & Greenway (1961) assert that in Kenya it is "Not uncommon in wetter scrub and savanna bush" from 3000 to 8000 feet altitude.

Moriarty (1975) avers that in Malawi this plant "is found in wooded grassland from Mulanje, Blantyre, Dedza, Mzinba to Karonga", flowering there from October to January. Blundell (1982) reports that in Kenya it is found "in bushland and forest margins at 1,500--2,400 m (5,000--8,000 ft.) in all except the driest areas".

Hooker (1870) describes the species as "A small stove shrub, which has long been in cultivation in the Palm-house at Kew, flowering annually in spring; but how and from whom procured is not known. The genus to which it belongs [*Cyclonema*], a very near ally, if not indeed identical with *Clerodendron*, is a native of tropical and subtropical Africa; where *C. myricoides* extends from Abyssinia to Natal; in the former country ascending to 7000 feet elevation. A very similar, or probably identical species, has been collected by Consul Petherick on the banks of the White Nile in lat. 7° to 8° N., and the *C. serratum*, Hochst. of Abyssinia, is probably another variety of it." Rose (1968) reports the species cultivated in France.

The corollas are described as having been "blue" on Bequwert 6851, Lucas 103, Peter 31361, and Strid 2509 and by Irvine (1930), as "light-blue" on Strid 2131 and by Schweinfurth (1867), "purple" by Venter (1972), "violet" on Ghiesquiere 3614 and by Cufodontis (1962), Drar (1970), and Gürke (1895), as "sky-blue" on Bogden B.48, "blue, lilac, & white" on Burger 1884, as "red & white" on Allen 368, as "white or pale-blue, the lower lobes dark-blue" by Blundell (1982), "lower lip dark-blue, the other lobes light-blue" on Fries 457, "lower lip dark-blue, lateral lobes pale-blue" on Feucht 82, "upper lobes white, lower usually pale-blue" by Baker (1900), "upper lobes white or pale-blue, lower lobes blue-violet" by the Baileys (1976). "bicolored, upper petal bluish, lower ones pinkish" on Meyer 7613, "4 pale-blue lobes, the fifth much darker blue" by Moriarty (1975), and "purplish-violet, the lower lip with a pale midpetaline band, on either side bounded by a zone of rich purple" on Maas Geesteranus 5203.

Edgeworth (1877) describes the pollen of this species as spherical, echinulate, unaltered in water. A wood section accompanies Meyer 7613 from Ethiopia.

The leafblades on Burger 1884 & 2066a are small, firmly chartaceous as in var. *chartaceum* Mold. but perfectly glabrous beneath!

Gürke (1895) comments about this species: "Ein kleiner Halbstrauch mit lanzettlichen Blättern, deren Form außerordentlich variabel ist und mit violetten Blümen. -- Meist im Schatten und an feuchten Orten, in Strandwäldern und auf feuchten beschatteten Termitenhügeln."

DeWildeman (1922) describes this plant in detail under the designation of "*Clerodendron myricoides* R. Br. sec. Wernham in Herb. Brux. non Hook. in Bot. Mag. tab. 5838" and comments that "Une étude approfondie des plantes rentrant dans la série des formes réunies ci-dessus, amènerait peut être une subdivision plus considérable encore, mais nous m'osierions le faire sur le vu de matériaux par trop incomplets. On aura remarqué, en effet, que plusieurs plantes sont signalées comme arbustes, d'autres comme lianes; il y a là, peut-être, une indication."

Gürke (1900) discusses his concept of *C. myricoides* as follows: "Diese Art, welche im ganzen tropischen Afrika verbreitet zu sein scheint, ist sehr variabel und formenreich. Die Abänderungen erstrecken sich hauptsächlich auf die Grösse, Consistenz und Behaarung der Blätter, und in dieser Beziehung sind alle nur möglichen Übergänge vorhanden, die eine Abgrenzung in bestimmte Varietäten sehr erschweren. Wenn ich nach dem mir vorliegenden Material eine solche Gruppierung versuche, muss dieselbe als eine nur vorläufige betrachtet werden, da vorauszusehen ist, dass nach dem Eintreffen von besserem Material noch mehr Formen herausgegriffen werden können..

"Die in den bergigen Gegenden von Abyssinien, meist in Höhen von 1700--2300 m am häufigsten vorkommende Form besitzt kleine Blätter, welche eine Länge von 5 cm nicht überschreiten, aber zuweilen bis auf 1 cm Länge herabgehen; sie sind gewöhnlich fein flauig behaart, auf der Unterseite dichter; bei einigen Exemplaren fehlt die Behaarung fast ganz, bei anderen wird sie stärker und es sind dabei alle Übergänge zu beobachten; auch zwei Welwitschische Pflanzen aus West-Afrika würden hierher zu zählen sein. Diese Form bezeichne ich als var. *microphyllum*. Die übrigen Formen haben grössere Blätter, welche etwa zwischen 6--12 cm Länge variieren. Darunter fallen zunächst Exemplare auf mit lederartigen, derben Blättern, welche ganz schwach behaart oder beinahe kahl sind und einen sehr grob gesägten Rand besitzen; diese möchte ich als var. *grosseserratum* bezeichnen. Den Gegensatz dazu bilden westafrikanische Exemplare mit meist grossen, dünnhäutigen, ganz kahlen Blättern, die alle offenbar feuchteren Standorten und wahrscheinlich meist dem Walde oder dichterem Busch entstammen; der Rand der Blätter ist meist mit wenigen unregelmässigen Sägezähnen versehen; diese fasse ich als var. *laxum* zusammen. Schliesslich heben sich noch als deutliche Varietät Exemplare von Angola und dem Kongogebiet heraus; diese haben Blätter von mittlerer Grösse, meist von 6--8 cm Länge wechselnd, dabei auch von mittelstarker Consistenz, nicht lederartig, wie bei var. *grosseserratum*, und nicht so dünnhäutig, wie bei var. *laxum*; die Behaarung ist stets eine schwache und auffallend ist mehr oder weniger stark ausgeprägte grauweisse Färbung der Blattunterseite; der Rand ist meist schwach gesägt; ihrem ganzen Habitus nach scheinen die Exemplare trockenen Steppengegenden zu entstammen; ich bezeichne sie als var. *camporum*."

Thomas (1936) comments that "Nach Fries (1924)....ist *C. myricoides* im ganzen tropischen Afrika weit verbreitet, auch in Natal. Die Abbildung im Bot. Mag. 5838 entspricht in bezug auf die Kelchspaltigkeit nicht dem Typus Schimper 330. Der von de Wildemann...

aufgestellte neue Typus leg. Vanderyst det. Wernham entspricht gleichfalls keineswegs dem Schimperschen Urtypus, sondern steht Arten nahe, die schon vor de Wildemann aufgestellt, von diesen aber gänzlich unberücksichtigt gelassen wurden; die von ihm in dieser Untergattung neu beschriebenen Arten sind daher alle schon bekannt."

Dale & Greenway (1961) state that "Greenway considers *C. discolor* (Klotzsch) Vatke to be "unworthy of specific rank and should revert to a variety of *C. myricoides*." The two species are, indeed, very closely related. Morton (1971) is of the opinion that *C. ugandense* Prain is also "probably" only another variety of *C. myricoides*; on Ash 2947 it is actually given as a synonym on the collector's label.

It may be worth mentioning that the *Herb. Hort. Kew s.n.* in the Kew herbarium, cited below, is the actual original from which plate 5838 in the Botanical Magazine of Curtis (1870) was drawn and painted.

Common and vernacular names reported for *Clerodendrum myricoides* include the following: "aseme", "asème", "assem", "blue glorybower", "butterfly bush", "chemogong", "chemogong'isyek", "chesagan", "chesamisyet-ab-soin" [samis = bad odor, ab soin = of the grass-lands], "eishrango", "ekweru", "ghria-nash", "kikonge", "magari", "marari", "mara-sisa", "mnindi", "mnindfñi", "mnindfñnñdfi", "muguya", "mujugaidia", "mukuzanya", "munjugu", "mun-tuga", "muserich", "muweya", "muzainanya", "mzuma", "obetyot", "ol mokodat", "omukuza-nyana", "soulthe", "soulthé", "sulthé", "surbaterie", "surba-terie", "surbatri", "sur-batteri", "surbattri", "surbetri", "surbatri", "um bozwa", and "umbozwa tree".

Watt & Breyer-Brandwijk (1962) and Bally (1937) tell us that the Masai tribesmen use the root bark of this plant as a remedy for East Coast fever in cattle and for diarrhea in calves. The plant is also used in treating dysmenorrhea and sterility in women, for impotency in men, and as a remedy for coughs, furunculosis, and "swellings of the body associated with debility". The roots are also employed in East Africa to treat enlargement of the spleen. Extracts of the plant have given negative antibiotic tests. The plant is regarded as medicinal in the Transvaal.

Glover (1967) states that in Kenya a broth made from the roots of *C. myricoides* is used as a remedy for rheumatism and other ailments -- it contains a pungent-smelling volatile oil. Palmer & Pitman (1972) assert that "The plant is a snake-bite remedy and has been used -- and possibly still is -- by both Europeans and Africans. It was brought to the notice of the botanist, Rudolf Marloth, as having been used by one Natal enthusiast -- and successfully -- for over 30 years to treat puffadder bites. No details were furnished."

Innamorati (1973) says that in Kenya the medicinal uses are: "le radici di questa pianta sono adoperate quale contravveleno nelle morsicature delle vipere. Il paziente rosicchia e mangia la radice come viene raccolta. Non so se riesca, non avendo mai assistito a cure del genere; ma i neri ne dicono mirabilia."

Junell (1934) states that, unlike the condition in *Kalaharia*, in *C. myricoides* "reicht der Fruchtblattrand nicht unter die Mikropyle hinab."

[to be continued]